PEARSON

Math Makes Sense 4

Practice and Homework Book

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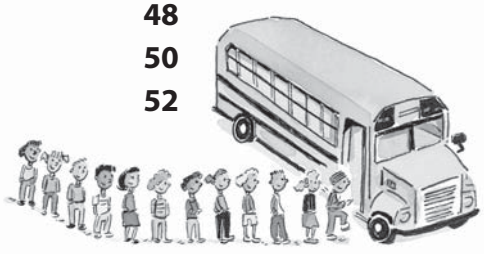
Contents



UNIT 4

Measurement

UNIT 5

Fractions and Decimals

UNIT 6

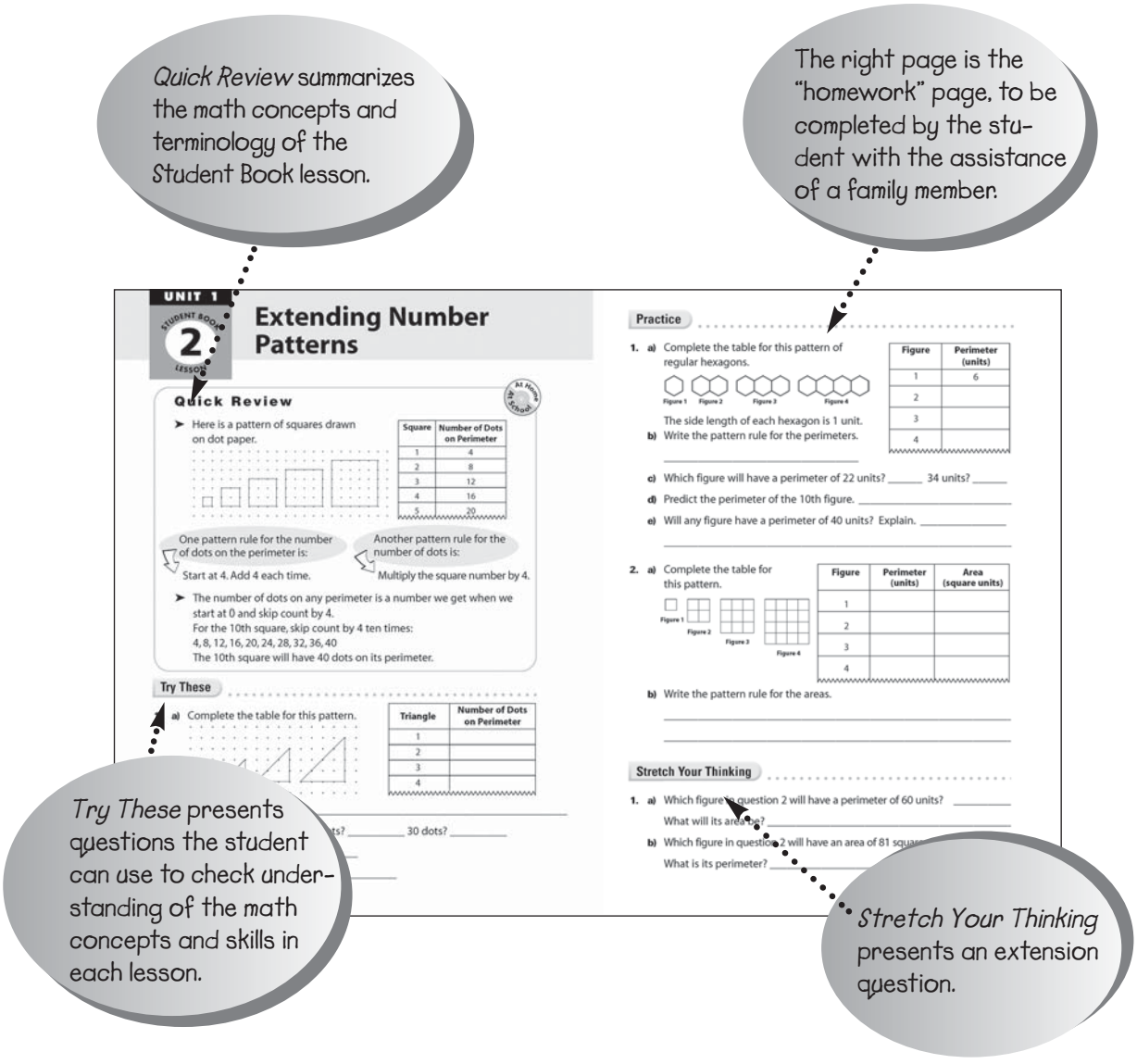
Geometry

To the Teacher

This Practice and Homework Book provides reinforcement of the concepts and skills explored in the Pearson *Math Makes Sense 4* program.

There are two sections in the book. The first section follows the sequence of *Math Makes Sense 4* Student Book. It is intended for use throughout the year as you teach the program. A two-page spread supports the content of each core lesson in the Student Book.

In each Lesson:



Math at Home

The second section of the book, on pages 145 to 156, consists of 3 pull-out **Math at Home** magazines. These fun pages contain intriguing activities, puzzles, rhymes, and games to encourage home involvement. The perforated design lets you remove, fold, and send home this eight-page magazine after the student has completed Units 3, 6, and 8.

To the Family

This book will help your child practise the math concepts and skills that have been explored in the classroom. As you assist your child to complete each page, you have an opportunity to become involved in your child's mathematical learning.

The left page of each lesson contains a summary of the main concepts and terminology of the lesson. Use this page with your child to review the work done in class. The right page contains practice.

Here are some ways you can help:

- With your child, read over the Quick Review. Encourage your child to talk about the content and explain it to you in his or her own words.
- Read the instructions with (or for) your child to ensure your child understands what to do.
- Encourage your child to explain his or her thinking.
- Some of the pages require specific materials. You may wish to gather items such as a centimetre ruler, index cards, a measuring tape, scissors, number cubes labelled 1 to 6, and paper clips.

Many of the Practice sections contain games that will also improve your child's math skills. You may have other ideas for activities your child can share with the rest of the class.

The **Math at Home** pull-out pages 145 to 156 provide more fun activities.

UNIT 1

STUDENT BOOK 1 LESSON

Patterns in Charts

Quick Review

At Home At School

Look at this hundred chart.

- There is a pattern in the circled numbers.
  The **pattern rule** is:
  Start at 3. Count on by 3s.
- There is a pattern in the positions of the squares with circles.
  The **pattern rule** is:
  The squares with circles lie along every third diagonal.
  The diagonals go 1 down, 1 left.

1	2	(3)	4	5	(6)	7	8	(9)	10
11	(12)	13	14	(15)	16	17	(18)	19	20
(21)	22	23	(24)	25	26	(27)	28	29	(30)
31	32	(33)	34	35	(36)	37	38	(39)	40
41	(42)	43	44	(45)	46	47	(48)	49	50
(51)	52	53	(54)	55	56	(57)	58	59	(60)
61	62	(63)	64	65	(66)	67	68	(69)	70
71	(72)	73	74	(75)	76	77	(78)	79	80
(81)	82	83	(84)	85	86	(87)	88	89	(90)
91	92	(93)	94	95	(96)	97	98	(99)	100

Try These

1. Look at the squares with circled numbers on this hundred chart.

1	(2)	3	4	5	(6)	7	(8)	9	(10)
11	12	13	(14)	15	16	17	(18)	19	20
21	(22)	23	24	25	(26)	27	28	29	(30)
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

a) Describe the position pattern.

_____

_____

b) Write the number pattern.

_____

c) Write a pattern rule for the number pattern.

_____

_____

d) Circle numbers to complete the pattern on the hundred chart.

Practice

1. **a)** Start at 102. Count on by 2s. Circle these numbers.

b) Start at 102. Count on by 5s. Put an X on each number.

c) Write the numbers that have both an X and are circled.

_____

_____

d) Write the pattern rule for the number pattern in part c.

_____

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

2. Look at the squares with circled numbers in this multiplication chart.

a) Write a pattern rule for the position pattern.

_____

_____

_____

b) Write a pattern rule for the number pattern.

_____

_____

×	1	2	3	4	5	6	7
1	(1)	2	3	4	5	6	7
2	2	(4)	6	8	10	12	14
3	3	6	(9)	12	15	18	21
4	4	8	12	(16)	20	24	28
5	5	10	15	20	(25)	30	35
6	6	12	18	24	30	(36)	42
7	7	14	21	28	35	42	(49)

Stretch Your Thinking

Follow this position rule. Put an X in the squares on the chart. The squares with an X lie along every third diagonal, starting at the first diagonal. The diagonals go 1 down and 1 right.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48

UNIT 1

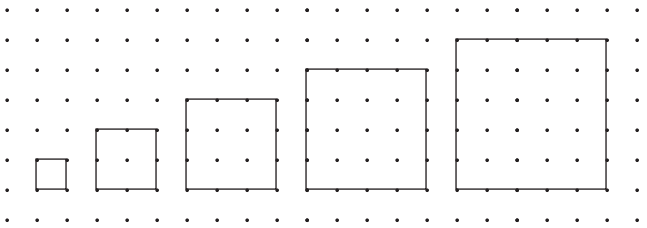
STUDENT BOOK 2 LESSON

Extending Number Patterns

Quick Review

At Home At School

➤ Here is a pattern of squares drawn on dot paper.



Square	Number of Dots on Perimeter
1	4
2	8
3	12
4	16
5	20

One pattern rule for the number of dots on the perimeter is:

Start at 4. Add 4 each time.

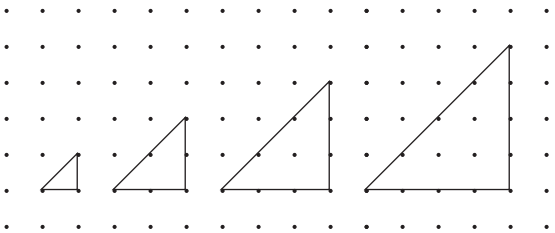
Another pattern rule for the number of dots is:

Multiply the square number by 4.

➤ The number of dots on any perimeter is a number we get when we start at 0 and skip count by 4.
For the 10th square, skip count by 4 ten times:
4, 8, 12, 16, 20, 24, 28, 32, 36, 40
The 10th square will have 40 dots on its perimeter.

Try These

1. **a)** Complete the table for this pattern.



Triangle	Number of Dots on Perimeter
1	
2	
3	
4	

b) Write the pattern rule. _____

c) Which triangle will have 21 dots? _____ 30 dots? _____

d) Will any triangle have 22 dots? ____

Why or why not? _____

Practice

1. **a)** Complete the table for this pattern of regular hexagons.

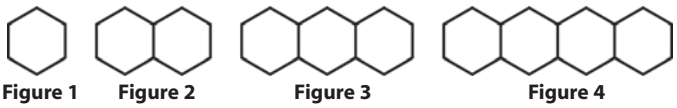


Figure 1 Figure 2 Figure 3 Figure 4

The side length of each hexagon is 1 unit.

Figure	Perimeter (units)
1	6
2	
3	
4	

b) Write the pattern rule for the perimeters.

_____

c) Which figure will have a perimeter of 22 units? _____ 34 units? _____

d) Predict the perimeter of the 10th figure. _____

e) Will any figure have a perimeter of 40 units? Explain. _____

_____

2. **a)** Complete the table for this pattern.

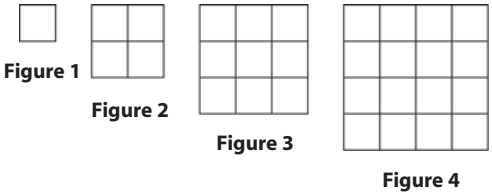


Figure 1 Figure 2 Figure 3 Figure 4

Figure	Perimeter (units)	Area (square units)
1		
2		
3		
4		

b) Write the pattern rule for the areas.

_____

_____

Stretch Your Thinking

1. **a)** Which figure in question 2 will have a perimeter of 60 units? _____

What will its area be? _____

b) Which figure in question 2 will have an area of 81 square units? _____

What is its perimeter? _____

UNIT 1

STUDENT BOOK 3 LESSON

Representing Patterns

Quick Review

At Home At School

Here is a pattern.

From the table, the Squares in a Figure increase by 2.

Here are 2 different ways to build this pattern:

Figure	Squares in Figure	
1	2	+ 2
2	4	+ 2
3	6	+ 2
4	8	

Pattern 1

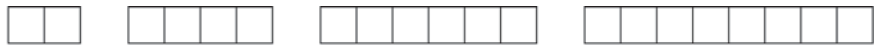


Figure 1 Figure 2 Figure 3 Figure 4

Pattern 2

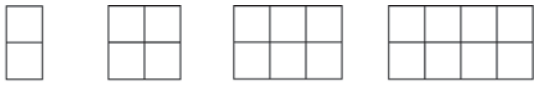


Figure 1 Figure 2 Figure 3 Figure 4

The pattern rule for the number of squares in a figure is:
Start at 2. Add 2 each time.

Try These

1. a) Use counters to build this pattern. Record the pattern below.

Figure	Counters in a Figure
1	1
2	3
3	5
4	7

b) What is a pattern rule?

_____

Practice

1. **a)** Use toothpicks to build this pattern.
Draw the pattern below.

Figure	Toothpicks in a Figure
1	2
2	4
3	6
4	8

b) Write a pattern rule. _____

c) How many toothpicks would be in the eighth figure? _____

2. **a)** Use counters to build this pattern.
Record the pattern below.

Figure	Counters in a Figure
1	2
2	5
3	8
4	11

b) Build the pattern in a different way.
Record the pattern below.

c) Write a pattern rule: _____

Stretch Your Thinking

Choose a pattern rule.
Complete the data in the table.
Draw the pattern below.

Figure	Squares in a Figure
1	
2	
3	
4	

UNIT 1

STUDENT BOOK 4 LESSON

Equations Involving Addition and Subtraction

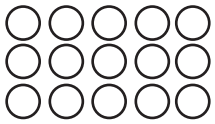
Quick Review

At Home At School

Here are 3 ways to solve this subtraction equation: 15 – □ = 6

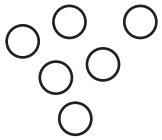
➤ Use counters.

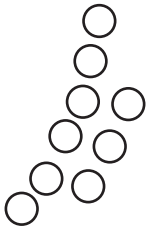
Put out 15 counters.



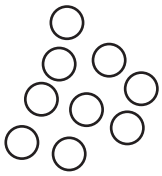
So, 15 – **9** = 6

Take away all but 6 counters.

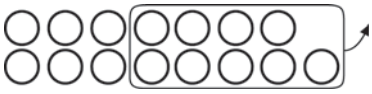




Count the counters you took away.



➤ Draw a picture.



15 – **9** = 6

□ = 9 is the solution to the equation.

➤ Use guess and test.

Guess: □ = 7

Test: 15 – 7 = 8 This is too low.

Guess: □ = 9

Test: 15 – 9 = 6 This is correct.

Try These

1. Use counters to solve each equation.
Rewrite each equation.
Replace the symbol with the correct value.

a) 8 + □ = 40

_____

b) 25 – □ = 15

_____

c) □ + 17 = 24

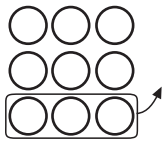
_____

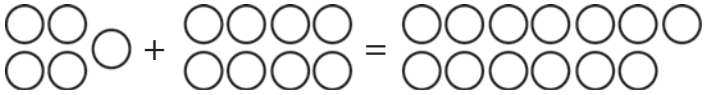
d) □ – 25 = 20

_____

Practice

1. Write an equation for each set of counters.

a)  _____

b)  _____

2. Use counters to solve each equation.

a) △ – 8 = 8

△ = _____

b) 7 + △ = 24

△ = _____

c) 15 – △ = 13

△ = _____

3. Draw a picture to solve each equation.

a) 19 – □ = 14

□ = _____

b) □ + 5 = 16

□ = _____

4. Use guess and test to solve each equation.

a) 53 + □ = 68

□ = _____

b) 37 – △ = 14

△ = _____

5. Write a story problem you could solve using the equation: 20 = 38 – □
Solve the equation.

_____

_____

Stretch Your Thinking

Solve: 126 + □ + 847 = 1000 □ = _____

UNIT 1

STUDENT BOOK 5 LESSON

Equations Involving Multiplication and Division

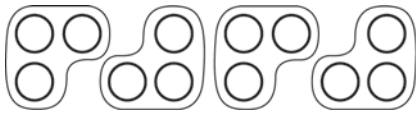
Quick Review

At Home At School

Here are 3 ways to solve this multiplication equation: $4 \times \square = 12$

➤ Use counters.
Put out 12 counters. Divide the counters into 4 equal groups.

➤ Draw a picture.



$4 \times \mathbf{3} = 12$

$\square = 3$ is the solution to the equation.

➤ Use mental math.
Think of a related division fact.
What do we divide 12 by to get 4?
$12 \div \mathbf{3} = 4$
So, $4 \times \mathbf{3} = 12$

Try These

1. Use counters to solve each equation.

a) $5 \times \square = 20$
$\square =$ _____

b) $24 \div \square = 6$
$\square =$ _____

c) $\square \div 3 = 6$
$\square =$ _____

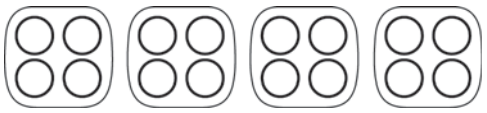
d) $\square \times 8 = 32$
$\square =$ _____

e) $2 \times 3 = \square$
$\square =$ _____

f) $7 \times 6 = \square$
$\square =$ _____

Practice

1. Write a multiplication and division equation for each picture.

a) 

_____

_____

b) 

_____

_____

2. Draw a picture to solve each equation.

a) $9 \times \square = 18$

$\square =$ _____

b) $14 \div \square = 2$

$\square =$ _____

c) $\square \times 6 = 12$

$\square =$ _____

3. Use mental math to solve each equation.

a) $\square \times 9 = 81$

$\square =$ _____

b) $21 \div \triangle = 3$

$\triangle =$ _____

c) $3 \times \triangle = 27$

$\triangle =$ _____

4. Write a story problem that could be solved by using this equation: $28 \div \square = 7$.
Solve the problem.

_____

_____

_____

Stretch Your Thinking

Use these numbers and some of these symbols: 3, 4, $\square$, $\times$, $\div$, $=$.
Write as many different equations as you can.

UNIT 2

STUDENT BOOK 1 LESSON

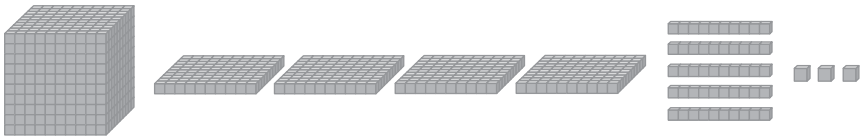
Whole Numbers to 10 000

Quick Review

At Home At School

You can show the number 1453 in different ways.

➤ Use Base Ten Blocks.



1 thousand 4 hundreds 5 tens 3 ones

➤ Use a place-value chart.

Thousands	Hundreds	Tens	Ones
1	4	5	3

➤ Use **expanded form**. 1453 = 1000 + 400 + 50 + 3

➤ Use words. 1453 is one thousand four hundred fifty-three.

The number 1453 is written in **standard form**.
Every digit has a place value, depending on its position.

Try These

1. Write each number in standard form.

a) two thousand six hundred thirteen _____

b) 8000 + 600 + 40 + 1 _____

2. Write each number in expanded form.

a) 7125 _____ **b)** 2307 _____

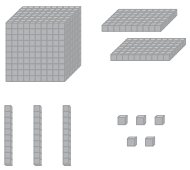
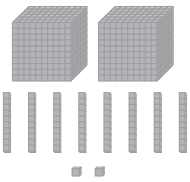
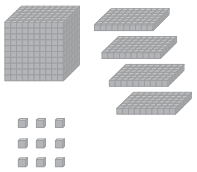
3. Write each number in words.

a) 1620 _____

b) 3408 _____

Practice

1. Complete the chart.

	Standard Form	Expanded Form
		
		
		

2. Write each number in words.

a) 3602 _____

b) 5045 _____

3. Use each of these digits once to make each 4-digit number: 4, 2, 7, 5

a) the greatest possible number _____

b) the least possible number _____

c) the greatest number with 5 tens _____

d) the least number with 5 ones _____

Stretch Your Thinking

Use 5, 3, 1, and 7 once in each number you make.
Make as many 4-digit numbers as you can.

_____

_____

UNIT 2

STUDENT BOOK 2 LESSON

Comparing and Ordering Numbers

Quick Review

At Home At School

Here are some ways to order the numbers 3261, 3621, and 2163 from least to greatest.

➤ Use a place-value chart.

Thousands	Hundreds	Tens	Ones
3	2	6	1
3	6	2	1
2	1	6	3

2163 has the fewest thousands, so it is the least number.

Both 3261 and 3621 have 3 thousands. Compare their hundreds.
200 < 600
So, 3261 < 3621

< means less than.
> means greater than.

➤ Use a number line.

From least to greatest: 2163, 3261, 3621

Try These

1. Compare each pair of numbers. Write >, <, or =.

a) 627 ☐ 485 **b)** 2641 ☐ 4824 **c)** 2683 ☐ 2683

2. Write the numbers in order from least to greatest.

758, 709, 741 _____

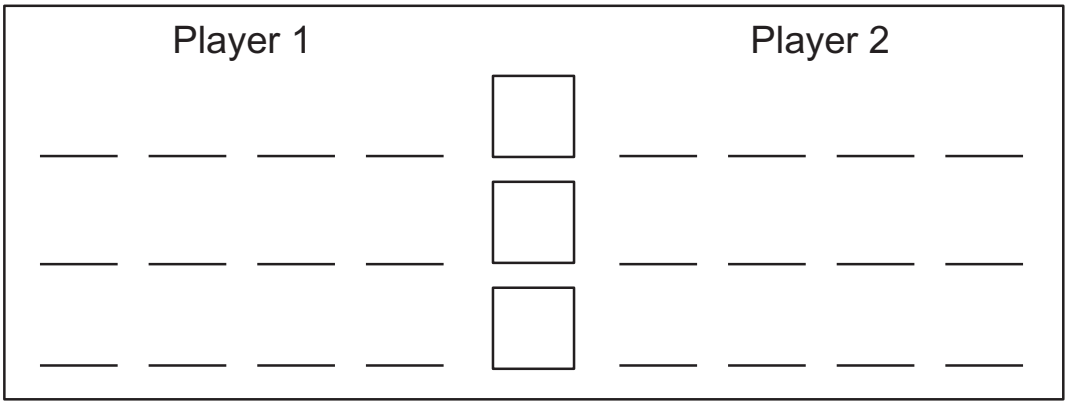
3. Write the numbers in order from greatest to least.

7148, 6271, 7285 _____

Practice

1. Play this game with a partner.
The object of the game is to make the greater number.
You will need a paper bag containing 10 cards with the digits 0 to 9.

- ➤ Draw a card from the bag.
  Record the digit in any space in the first row of your game board.
  Return the card to the bag.
- ➤ Take turns until each player fills all four spaces in a row.
- ➤ Compare your numbers.
  Write > or < in the box between the numbers.
  The player with the greater number wins a point.
- ➤ Play two more rounds.
  The player with the most points at the end of the game wins.



2. **a)** Put your numbers from the game in order from least to greatest.

_____

b) Put your partner's numbers in order from greatest to least.

_____

Stretch Your Thinking

Make up three 4-digit numbers.
Order the numbers from greatest to least.

_____

UNIT 2

STUDENT BOOK 3 LESSON

Sorting Numbers

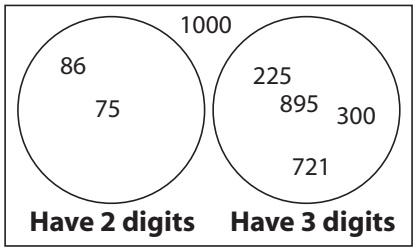
Quick Review

At Home At School

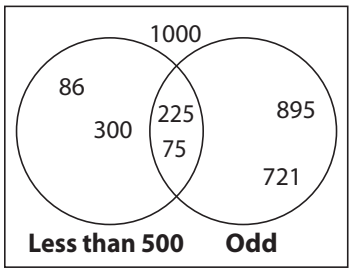
Here are four ways to sort these numbers.

86 225 895 300 75 1000 721

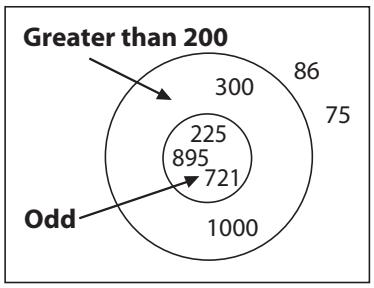
Venn Diagram



Venn Diagram



Venn Diagram



Carroll Diagram

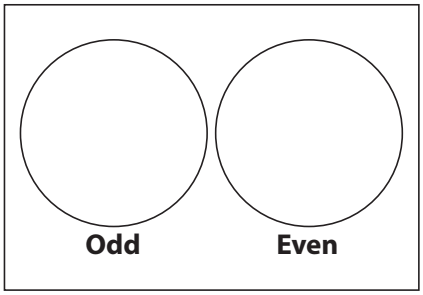
	Digits add to less than 10	Digits add to 10 or more
Even	300 1000	86
Odd	225	75 721 895

Try These

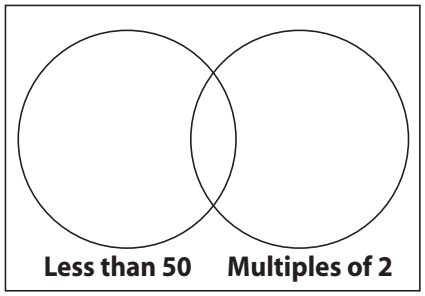
1. Use each Venn diagram to sort these numbers.

94 27 85 13 44 76

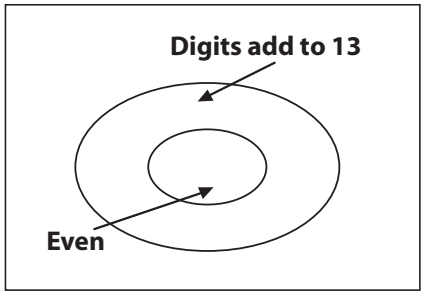
a)



b)



c)

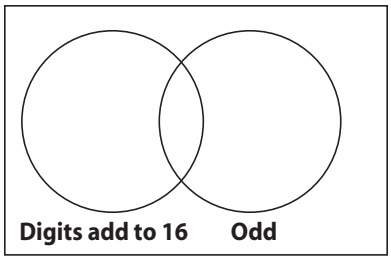


Practice

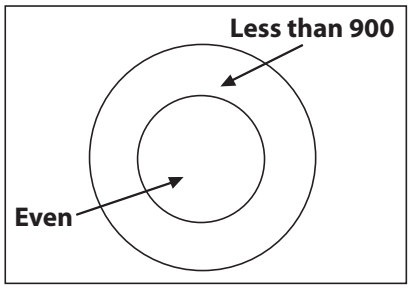
1. Sort these numbers in each Venn diagram.

421 718 246 967 358 709 626

a)



b)



2. Use a coloured pencil to write one more number in each part of the Venn diagrams in question 1.

3. **a)** Sort these numbers in the Carroll diagram.

56 101 77 84 50 126 91 105

b) Use a coloured pencil to write another number in each box in the Carroll diagram.

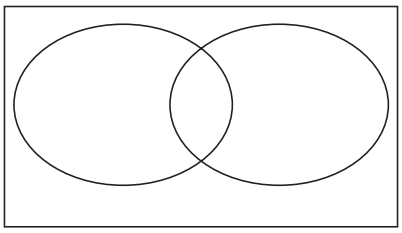
	Even	Odd
Multiples of 7		
Not Multiples of 7		

4. Elmo travels to Sweden every three years.
Sven visits Sweden every four years.
Both men went to Sweden in 2006.
Use a Venn diagram to find the year in which both men will visit Sweden again.

_____

Stretch Your Thinking

Choose two attributes. Label the circles.
Sort these numbers in the Venn diagram.
1514 2658 947 352 685 4109



UNIT 2

STUDENT BOOK 4 LESSON

Estimating Sums

Quick Review

At Home At School

When a question asks "about how many," you can estimate.

Here are some ways to estimate the sum of 294 + 351.

➤ Write each number to the closest 100.
294 is closest to 300.
351 is closest to 400.
300 + 400 = 700
So, 294 + 351 is about 700.

➤ Use **front-end estimation**.

Add the first digits of the numbers.
200 + **3**00 = **5**00
So, 294 + 351 is about 500.

For a closer estimate:
Think about 94 and 51.
This is about 100 + 50 = 150.
So, 294 + 351 is about 500 + 150 = 650.

Try These

1. Estimate each sum.

a) 198 + 389
Estimate: _____

b) 119 + 408
Estimate: _____

c) 640 + 192
Estimate: _____

d) 79 + 272
Estimate: _____

e) 516 + 482
Estimate: _____

f) 291 + 291
Estimate: _____

2. William estimated 246 + 585 as 700.
Is his estimate high or low? Explain.

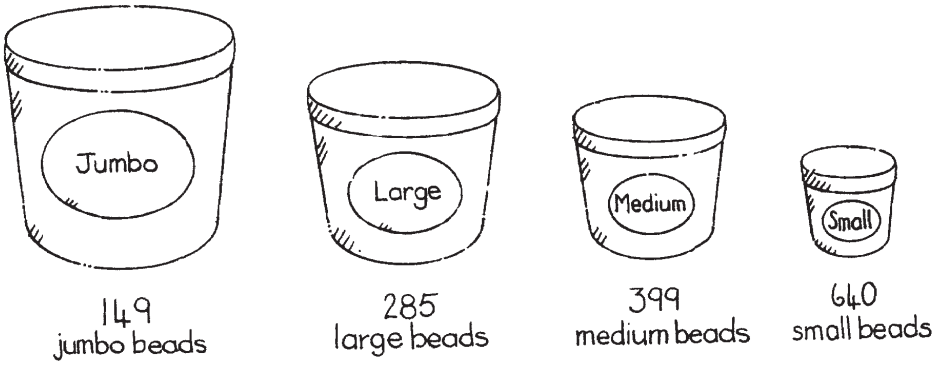
_____

_____

_____

Practice

1. About how many beads would you have if you bought these sizes:



a) small and large? _____ **b)** medium and jumbo? _____

c) medium and large? _____ **d)** jumbo and small? _____

2. The toy shop sold 117 wind-up cars and 289 battery-operated cars in one week. About how many cars did it sell? _____

3. Yolanda has a desktop publishing business. She wants to print 1000 items today. She actually prints 352 brochures and 581 flyers today.

a) About how many items did she print? _____

b) Did Yolanda reach her goal? Explain.

_____

_____

4. Last summer, 227 children signed up for T-ball and 139 signed up for baseball. About how many children signed up altogether? _____

Stretch Your Thinking

The estimated sum of two numbers is 1000.
What might the numbers be? Give three different answers.

_____

UNIT 2

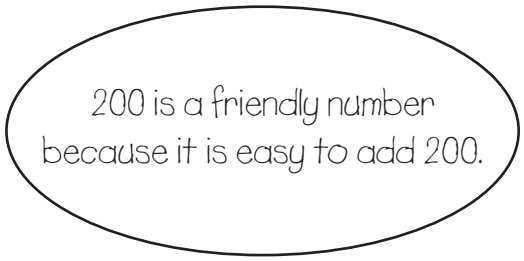
STUDENT BOOK 5 LESSON

Using Mental Math to Add

Quick Review

At Home At School

➤ Use mental math to add: 267 + 197
Use the strategy of make a "friendly" number.
197 is 200 – 3.
Add 200, then take away 3.
267 + 200 = 467
467 – 3 = 464
So, 267 + 197 = 464



➤ Count on to add: 271 + 580
Add 271 and 500. 271 + 500 = 771
Count on by 10s eight times.
771, 781, 791, 801, 811, 821, 831, 841, 851
So, 271 + 580 = 851

➤ Use mental math to add: 415 + 342
Use the strategy of "adding on" from left to right.
Add on hundreds, then tens, and then ones.
Think: 415 + 300 + 40 + 2
Count on 3 hundreds: 415, 515, 615, 715
Count on 4 tens: 715, 725, 735, 745, 755
Then add 2: 755 + 2 = 757
So, 415 + 342 = 757

Try These

1. Use mental math to add.

a) 262 + 345 = _____ **b)** 497 + 222 = _____ **c)** 370 + 163 = _____

d) 399 + 544 = _____ **e)** 262 + 290 = _____ **f)** 196 + 341 = _____

2. Becky gathered 316 clams and Charlie gathered 286.

How many clams did they gather in all? Use mental math to find out. _____

Practice

Use mental math.

1. Add.

a) 690 + 284 = _____

b) 2131 + 3468 = _____

c) 352 + 213 = _____

d) 229 + 493 = _____

For which problems did you make a "friendly" number? _____

2. Look at these containers.
If you bought the following groups of animals, how many toy animals would you have?

a) farm animals and zoo animals _____

b) sea creatures and jungle animals _____

c) zoo animals and jungle animals _____

3. Ridgetown has a population of 8317 people.
Mayberry has a population of 1291.

How many people live in the two towns? _____

4. The cafeteria sold 123 cartons of chocolate milk and 204 cartons of white milk. How many cartons of milk were sold? _____

Stretch Your Thinking

Use mental math to add: 453 + 197 + 205 = _____

Describe the strategy you used. _____

_____

_____

_____

UNIT 2

STUDENT BOOK 6 LESSON

Adding 3-Digit Numbers

Quick Review

At Home At School

Geraldo has 276 hockey cards and 397 baseball cards.
To find how many cards Geraldo has in all, add: 276 + 397

➤ Add from right to left.

		276
	+	397
Add the hundreds:		500
Add the tens:		160
Add the ones:		13
Add the sums:		673

➤ Add from right to left.

Add the ones: 13 ones Regroup 13 ones as 1 ten and 3 ones.	Add the tens: 17 tens Regroup 17 tens as 1 hundred and 7 tens.	Add the hundreds: 6 hundreds
1 27**6** + 39**7** **3**	1 1 2**7**6 + 3**9**7 **7**3	1 1 **2**76 + **3**97 **6**73

Geraldo has 673 cards in all.

Try These

1. Add.

a) 295 + 104

b) 327 + 415

c) 299 + 463

d) 508 + 419

e) 285 + 79

2. There were 139 more people at the soccer game on Saturday than on Friday. On Friday there were 472 people at the game.

How many people were at the game on Saturday? _____

Practice

1. Estimate first.
Circle the letters next to the examples for which the sum will be less than 900.
Then, add to find all the sums.

a) 738 + 191	**b)** 637 + 439	**c)** 109 + 488	**d)** 718 + 237	**e)** 367 + 662
f) 482 + 519	**g)** 234 + 410	**h)** 689 + 130	**i)** 651 + 259	**j)** 318 + 491

2. Estimate first.
Circle the letters next to the examples for which the sum will be greater than 700.
Then, add to find all the sums.

a) 418 + 231	**b)** 526 + 437	**c)** 381 + 294	**d)** 108 + 592	**e)** 397 + 459
f) 362 + 282	**g)** 583 + 199	**h)** 435 + 428	**i)** 339 + 382	**j)** 282 + 531

3. Add: 419 + 386
Explain your strategy.

_____

4. What is the greatest 3-digit number you can add to 457 without having to regroup in any place? _____

Stretch Your Thinking

The sum of two numbers is 853. What might the numbers be?

Find two pairs of numbers. _____

UNIT 2

STUDENT BOOK 7 LESSON

Adding 4-Digit Numbers

Quick Review

At Home At School

➤ 1756 + 4828
Use column addition.

1000s	100s	10s	1s
1	7	5	6
+ 4	8	2	8
5	15	7	14
6	5	7	14
6	5	8	4

15 hundreds is 1 thousand 5 hundreds
14 ones is 1 ten 4 ones

➤ 1756 + 2469
Add from right to left.

Add the ones. Regroup.	Add the tens. Regroup.	Add the hundreds. Regroup.	Add the thousands.
1 1756 + 2469 5	11 1756 + 2469 25	111 1756 + 2469 225	111 1756 + 2469 4225

Estimate to check that the sum is reasonable.
1756 is close to 2000. 2469 is close to 2000. 2000 + 2000 = 4000
4225 is close to 4000. So, the sum is reasonable.

Try These

1. Find each sum. Estimate to check.

a) 5558 + 1343

b) 3047 + 2828

c) 4189 + 3673

d) 1847 + 5684

2. Estimate each sum.

a) 3276 + 4192
Estimate: _____

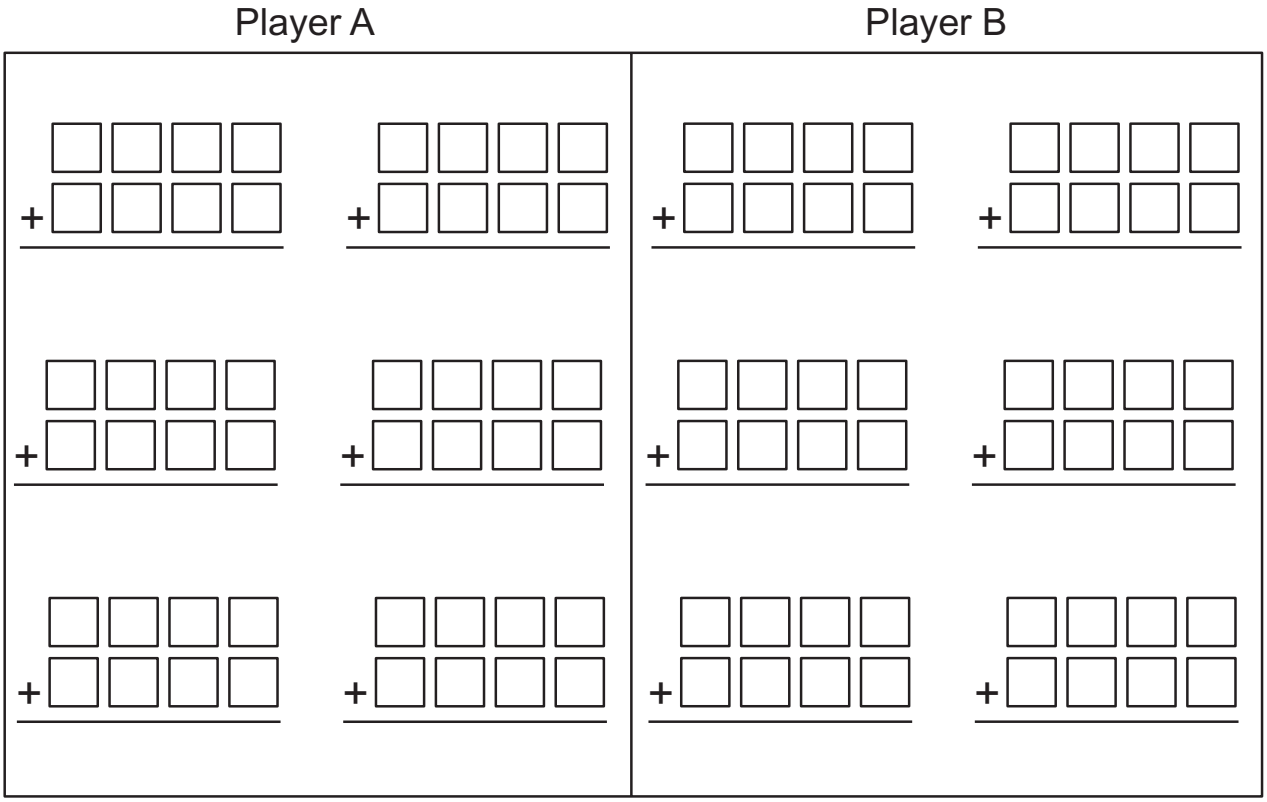
b) 1258 + 3769
Estimate: _____

c) 2672 + 3409
Estimate: _____

Practice

1. Play this game with a partner.
You will need:
1 number cube labelled 1 to 6

- ➤ Take turns rolling the number cube.
  On each roll, both players record the digit rolled in one of the boxes in their first addition grid.
- ➤ After 8 rolls, players add.
  The player with the greater sum wins.
- ➤ Repeat with the other addition grids.



Stretch Your Thinking

The sum of two 4-digit numbers is 4589.
What might the two numbers be?
Give two different answers.

UNIT 2

STUDENT BOOK 8 LESSON

Estimating Differences

Quick Review

At Home At School

Here are some strategies for estimating differences.

➤ Estimate: 513 – 289
Write each number to the nearest 100 and subtract.
500 – 300 = 200
So, 513 – 289 is about 200.

To get a closer estimate, write only one number to the closest 100.
513 – 300 = 213.
So, 513 – 289 is about 213.

➤ Estimate: 4592 – 2369
Use front-end estimation.
4592 → 4000
2369 → 2000
4000 – 2000 = 2000
So, 4592 – 2369 is about 2000.

Use the digits in the thousands place. Replace the other digits with zeros.

Try These

1. Estimate each difference.

a) 749 – 263
Estimate: _____

b) 504 – 327
Estimate: _____

c) 988 – 214
Estimate: _____

d) 4580 – 1235
Estimate: _____

e) 677 – 48
Estimate: _____

f) 6896 – 1583
Estimate: _____

2. Natalie estimated 584 – 126 as 400. Is her estimate high or low? Explain.

_____

_____

_____

_____

Practice

1. Use the data in the chart to estimate each difference.

School Lunches Served

Day	Number Served
Monday	286
Tuesday	327
Wednesday	489
Thursday	417
Friday	648

a) About how many more lunches were served on Friday than on Monday? _____

b) About how many more lunches were served on Thursday than on Tuesday? _____

c) About how many more lunches were served on Wednesday than on Tuesday? _____

2. Laleh estimated the difference of 7654 and 4111 as 4000, and Sam estimated the difference as 3500.

a) How might Laleh have estimated?

_____

b) How might Sam have estimated?

_____

c) Whose estimate is better? Explain.

_____

Stretch Your Thinking

Find a pair of 3-digit numbers that have an estimated difference of 520.

_____

UNIT 2

STUDENT BOOK 9 LESSON

Using Mental Math to Subtract

Quick Review

At Home At School

Here are some strategies for using mental math to subtract.

➤ Use the strategy of "make a friendly number."

Subtract: 719 – 398
Add 2 to 398 to make 400.
Add 2 to 719 to make 721.
721 – 400 = 321
So, 719 – 398 = 321

Subtract: 437 – 103
Subtract 100 instead of 103.
437 – 100 = 337
Then subtract 3.
337 – 3 = 334
So, 437 – 103 = 334

➤ Use the strategy of "counting on."

Subtract: 441 – 230

Count: 230 (+100) 330 (+100) 430 (+10) 440 (+1) 441 = 211

So, 441 – 230 = 211

Try These

1. Use mental math to subtract.

a) 427 – 299 = _____ **b)** 625 – 495 = _____ **c)** 586 – 397 = _____

d) 256 – 101 = _____ **e)** 748 – 403 = _____ **f)** 462 – 202 = _____

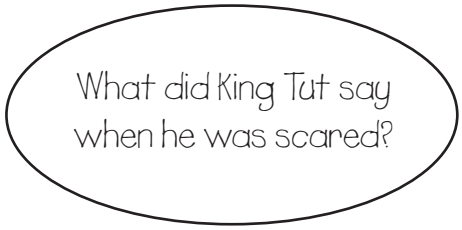
g) 4272 – 2150 = _____ **h)** 7758 – 3547 = _____ **i)** 6894 – 1673 = _____

2. Laslo travelled 637 km on Saturday and 402 km on Sunday.
How much farther did he travel on Saturday than on Sunday?
Use mental math to find out. _____

3. The hot dog stand served 250 hot dogs on Friday and 481 on Saturday.
How many more hot dogs were served on Saturday than on Friday?
Use mental math to find out. _____

Practice

1. Use mental math to find each difference.
Then use the letters next to the differences to solve the riddle.



543 – 260 = _____ (B)

894 – 517 = _____ (N)

499 – 354 = _____ (M)

532 – 220 = _____ (T)

684 – 302 = _____ (W)

536 – 199 = _____ (C)

947 – 624 = _____ (L)

622 – 415 = _____ (E)

583 – 298 = _____ (I)

314 – 189 = _____ (U)

847 – 606 = _____ (Y)

717 – 402 = _____ (Z)

632 – 421 = _____ (F)

231 – 111 = _____ (A)

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
285	382	120	377	312	145	241	145	125	145	145	241	

Stretch Your Thinking

Describe two ways to find 4000 – 3894.

_____

_____

_____

_____

UNIT 2

STUDENT BOOK 10 LESSON

Subtracting 3-Digit Numbers

At Home At School

Quick Review

There are 300 seats in the theatre. One hundred eighty-four seats are on the main floor. The rest are in the balcony.
To find how many seats are in the balcony, subtract: 300 – 184

➤ You can use place value to subtract.
You cannot take 4 ones from 0 ones.
There are no tens to regroup.
Regroup 1 hundred as 10 tens.
Regroup 1 ten as 10 ones.
Subtract the ones.
Subtract the tens.
Subtract the hundreds.

```
    9
  2 10 10
  3̶ 0̶ 0̶
– 1  8  4
```

```
    9
  2 10 10
  3̶ 0̶ 0̶
– 1  8  4
  1  1  6
```

➤ You can use mental math to subtract.
Count on from 184 to 300.

184 → 284 → 294 → 300

+100 +10 +6 = 116

You can check by adding.
Add: 184 + 116 = 300

Try These

1. Subtract.

a) 465 – 213 **b)** 786 – 229 **c)** 574 – 197 **d)** 600 – 211 **e)** 238 – 79

2. Find the difference. Use mental math.

a) 400 – 174 = ________ **b)** 500 – 189 = ________ **c)** 347 – 215 = ________

d) 701 – 500 = ________ **e)** 428 – 299 = ________ **f)** 152 – 107 = ________

Practice

1. Subtract. Check your answers.

a) 836 − 451

Check:

b) 726 − 538

Check:

c) 736 − 528

Check:

2. Use mental math to find each difference.

a) 400 − 263 = _____ **b)** 501 − 248 = _____ **c)** 450 − 231 = _____

3. Estimate first. Then subtract the numbers for which the difference will be less than 300.

a) 591 − 375 **b)** 436 − 168 **c)** 624 − 235 **d)** 716 − 371 **e)** 327 − 79

4. Ms. Green's class collected 600 cans for recycling.
Mr. Hso's class collected 427 cans.
How many more cans did Ms. Green's class collect?

_____

5. Sanil's school had a book sale.
On Monday they sold 697 books.
On Tuesday they sold 842 books.
How many more books did they sell on Tuesday?

_____

Stretch Your Thinking

The difference of two numbers is 329.
What might the numbers be? Find two pairs of numbers.

_____

UNIT 2

STUDENT BOOK 12 LESSON

Subtracting 4-Digit Numbers

Quick Review

At Home At School

Subtract: 2053 – 997

You can use place value to subtract from right to left.

Regroup 1 ten as 10 ones. Subtract the ones.	Regroup 1 thousand as 10 hundreds. Regroup 1 hundred as 10 tens.	Subtract the tens. Subtract the hundreds. Subtract the thousands.
4 13 20~~5~~~~3~~ – 99**7** **6**	**9 14** **1** ~~10~~4 13 ~~2053~~ – 997 6	9 14 1 ~~10~~4 13 ~~2053~~ – 997 1056

Check.

➤ By adding:

997
+ 1056
2053

The sum should be the number you started with.

➤ By estimating:

2000 – 1000 = 1000

1000 is close to 1056.

So, the answer is reasonable.

Try These

1. Subtract.

a) 4532 – 2121

b) 5726 – 248

c) 7243 – 5685

d) 4029 – 388

2. Subtract. Check your answer.

a) 9354 – 3287

Check:

b) 7600 – 1452

Check:

Practice

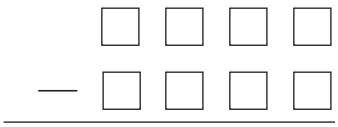
1. Estimate. Then subtract.

a)	**b)**	**c)**	**d)**
3059	5138	8209	5439
– 2298	– 4479	– 5919	– 3216
Estimate: _____	Estimate: _____	Estimate: _____	Estimate: _____

2. Manjit and Irene like to collect acorns.
Manjit collected 1286 acorns and Irene collected 898.
How many more acorns did Manjit collect than Irene? _____

3. Play this game with a partner.
You will need:
1 number cube
paper
pencils

➤ Each player draws a subtraction grid like this:



➤ Take turns rolling the number cube.
After each turn, both players record the digit rolled in any box in their grid.
➤ After 8 rolls, players subtract.
The player with the greater difference wins.
Play 5 or more games.

Stretch Your Thinking

A 3-digit number is subtracted from a 4-digit number.
The difference is 426. What could the two numbers be? Give two answers.

_____

_____

UNIT 2

STUDENT BOOK 13 LESSON

Solving Addition and Subtraction Problems

Quick Review

At Home At School

Jakob delivered 2472 flyers in March, 3854 in April, and 1962 in May.
How many flyers did Jakob deliver in all?

➤ Add: 2472 + 3854 + 1962

$$\begin{array}{rl} {\scriptstyle 2\ 1} & \\ 2472 & \text{Add the ones.} \\ 3854 & \text{Add the tens. Regroup.} \\ +\ 1962 & \text{Add the hundreds. Regroup.} \\ 8288 & \text{Add the thousands.} \end{array}$$

Jakob delivered 8288 flyers.

Jakob was paid $165 for his work.
He bought a pair of skates for $119.
Later, he bought a hockey stick for $18.
How much money did Jakob have left?

➤ Subtract: $\begin{array}{r} {\scriptstyle 5\ 15} \\ 1\not{6}\not{5} \\ -\ 119 \\ \hline 46 \end{array}$

Then subtract 18 from the result: $\begin{array}{r} {\scriptstyle 3\ 16} \\ \not{4}\not{6} \\ -\ 18 \\ \hline 28 \end{array}$

Jacob has $28 left.

Try These

1. Add.

a) $\begin{array}{r} 4723 \\ 6415 \\ +\ 3027 \end{array}$ **b)** $\begin{array}{r} 8962 \\ 3471 \\ +\ 536 \end{array}$ **c)** $\begin{array}{r} 1357 \\ 2468 \\ +\ 2389 \end{array}$ **d)** $\begin{array}{r} 4572 \\ 3002 \\ +\ 5679 \end{array}$

2. Estimate to check each answer in question 1. Show your work.

a) _____ **b)** _____

c) _____ **d)** _____

Practice

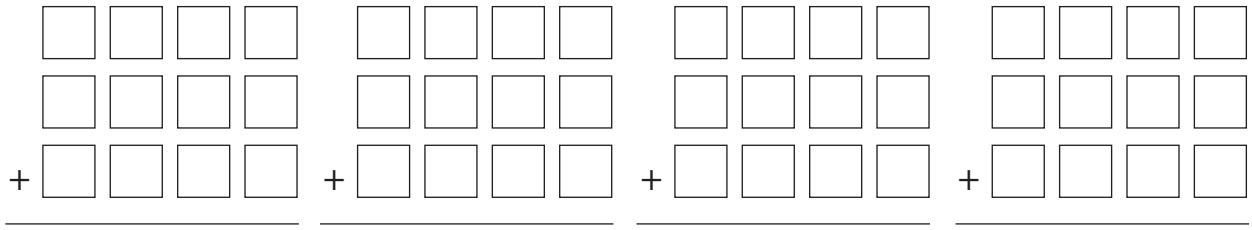
1. Maddy had $1467 in her bank account.
She withdrew $247 one week and $135 the next week.
How much money did Maddy have left in her account?

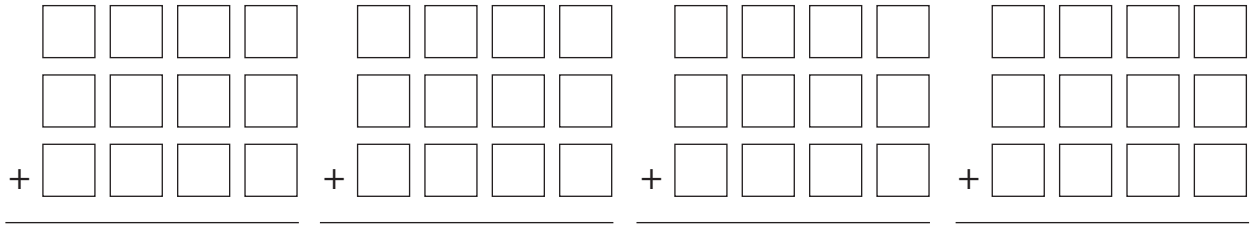
_____

2. Play this game with a partner.
You will need a number cube labelled 1 to 6.

- ➤ Take turns to roll the number cube.
  On each roll, both players record the digit rolled in one of the boxes in the first addition grid.
- ➤ After 12 rolls, add.
  The player with the greater sum wins.
- ➤ Repeat with the other grids.

Player A **Player B**





Stretch Your Thinking

The sum of three 4-digit numbers is 5638.

What might the numbers be? _____

UNIT 3

STUDENT BOOK 1 LESSON

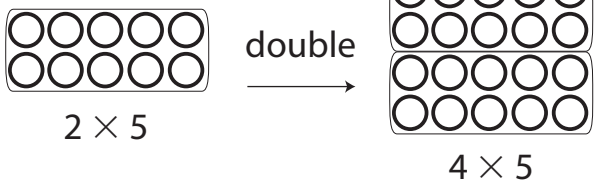
Using Doubles to Multiply

Quick Review

At Home At School

Doubling is a strategy you can use to multiply.

➤ Use doubling to multiply by 4.
To find 4×5:
First find 2×5, then double.
$2 \times 5 = 10$
$4 \times 5 = 20$



2×5 $\qquad$ 4×5

➤ Use repeated doubling to multiply by 8.
To find 8×3:
First find 2×3, then double, then double again.
$2 \times 3 = 6$
$4 \times 3 = 12$
$8 \times 3 = 24$

➤ Begin with a fact you know.
Double one of the factors, then multiply.
You know $3 \times 4 = 12$.
Double the factor 3, then multiply: $6 \times 4 = 24$ (double of 12)
Or, double the factor 4, then multiply: $3 \times 8 = 24$ (double of 12)
When you double a factor, the product doubles.

Try These

1. Use doubling to multiply.

a) $2 \times 7 = 14$
$4 \times 7 =$ _____

b) $4 \times 3 = 12$
$8 \times 3 =$ _____

c) $3 \times 5 = 15$
_____

2. Double one of the factors each time to get a product.
Then check the circle if the product is double the one in the box.

a) $4 \times 3 = \square$
_____ ○
_____ ○

b) $2 \times 5 = \square$
_____ ○
_____ ○

c) $5 \times 3 = \square$
_____ ○
_____ ○

Practice

1. Use doubling to multiply.

a) $2 \times 9 = 18$
$4 \times 9 =$ _____

b) $3 \times 3 = 9$
_____

c) $6 \times 5 =$ _____
_____

2. Find each product.

a) $2 \times 6 =$ _____
$4 \times 6 =$ _____
$8 \times 6 =$ _____

b) $2 \times 9 =$ _____
$4 \times 9 =$ _____
$8 \times 9 =$ _____

c) $2 \times 7 =$ _____
$2 \times 14 =$ _____
$2 \times 28 =$ _____

3. Use repeated doubling to multiply.

a) $8 \times 6 = \square$
_____
_____
_____
$8 \times 6 =$ _____

b) $8 \times 5 = \square$
_____
_____
_____
$8 \times 5 =$ _____

c) $9 \times 8 = \square$
_____
_____
_____
$9 \times 8 =$ _____

4. What could each missing number be?
Find as many answers as you can.

a) $\square \times \square = 18$

_____
_____
_____
_____

b) $\triangle \times \bigcirc = 36$

_____
_____
_____
_____

Stretch Your Thinking

Multiply.

1. $2 \times 2 =$ _____ $4 \times 2 =$ _____ $8 \times 2 =$ _____ $16 \times 2 =$ _____ $32 \times 2 =$ _____

2. $2 \times 5 =$ _____ $4 \times 5 =$ _____ $8 \times 5 =$ _____ $16 \times 5 =$ _____ $32 \times 5 =$ _____

UNIT 3

STUDENT BOOK 2 LESSON

Multiplying by 1, by 0, and by 10

Quick Review

At Home At School

Think: 5 groups of 1 is 5×1.

5	×	1	=	5
bowls		fish		fish in all

Also, $1 \times 5 = 5$

When 1 is a factor, the product is always the other factor.

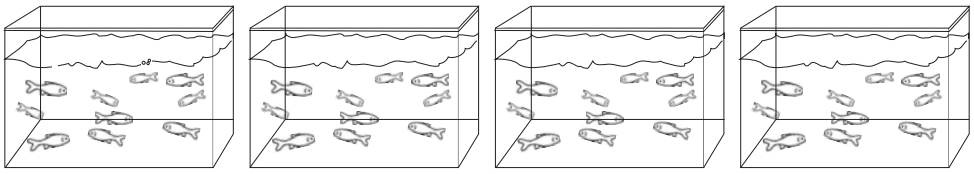
Think: 7 groups of 0 is 7×0.

7	×	0	=	0
bowls		fish		fish in all

Also, $0 \times 7 = 0$

When 0 is a factor, the product is always 0.

Think: 4 groups of 10 is 4×10.



4	×	10	=	40
tanks		fish		fish in all

Also, $10 \times 4 = 40$

When 10 is a factor, the product is always the other factor with a zero added.

Try These

Multiply.

1. **a)** $6 \times 1 =$ _____ **b)** $7 \times 1 =$ _____ **c)** $4 \times 1 =$ _____

2. **a)** $6 \times 0 =$ _____ **b)** $3 \times 0 =$ _____ **c)** $2 \times 0 =$ _____

3. **a)** $7 \times 10 =$ _____ **b)** $8 \times 10 =$ _____ **c)** $4 \times 10 =$ _____

Practice

1. Find each product.

a) $1 \times 4 =$ _____ **b)** $0 \times 0 =$ _____ **c)** $0 \times 7 =$ _____

d) $5 \times 10 =$ _____ **e)** $6 \times 0 =$ _____ **f)** $10 \times 6 =$ _____

g) $0 \times 4 =$ _____ **h)** $7 \times 10 =$ _____ **i)** $1 \times 1 =$ _____

2. Find each missing number.

a) $4 \times$ _____ $= 0$ **b)** _____ $\times 6 = 6$ **c)** $7 \times$ _____ $= 70$

d) _____ $\times 1 = 1$ **e)** _____ $\times 5 = 50$ **f)** _____ $\times 4 = 4$

g) $1 \times$ _____ $= 10$ **h)** _____ $\times 1 = 3$ **i)** $2 \times$ _____ $= 2$

3. Write + or ×.

a) 5 _____ 1 = 5 **b)** 1 _____ 1 = 1 **c)** 6 _____ 10 = 60

d) 10 ___ 3 = 30 **e)** 4 _____ 1 = 5 **f)** 0 _____ 2 = 0

g) 1 _____ 4 = 4 **h)** 1 _____ 1 = 2 **i)** 7 _____ 0 = 7

4. Rico has 1 nickel, 5 dimes, and 7 pennies.
How much money does Rico have?
Show your work.

_____

_____

Stretch Your Thinking

Which is greater, the product of your age times 0 or the product of your age times 1? Explain.

_____

_____

_____

UNIT 3

STUDENT BOOK 3 LESSON

Using Skip Counting to Multiply

Quick Review

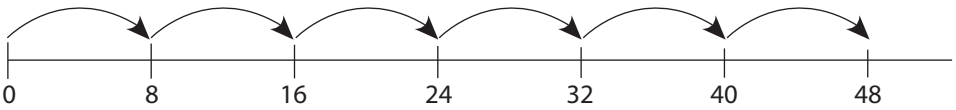
At Home At School

You can use skip counting patterns to multiply mentally.

➤ To find 6×8, skip count by 8 six times.

8, 16, 24, 32, 40, 48

These numbers are multiples of 8.



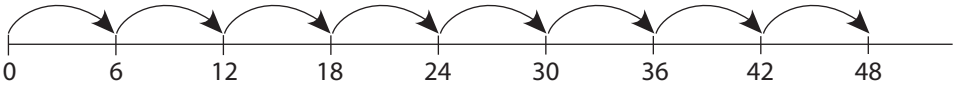
6 steps of 8 is 48.

$6 \times 8 = 48$

➤ Another way to find 6×8 is to skip count by 6 eight times.

6, 12, 18, 24, 30, 36, 42, 48

These numbers are multiples of 6.



8 steps of 6 is 48.

$6 \times 8 = 48$

Try These

1. Skip count to find the missing numbers.

a) 4, 8, 12, _____, _____, _____, _____

b) 9, 18, 27, _____, _____, _____, _____

c) 7, 14, 21, _____, _____, _____, _____

2. Skip count to find each product.

a) $5 \times 4 =$ _____ **b)** $3 \times 8 =$ _____ **c)** $4 \times 3 =$ _____ **d)** $9 \times 2 =$ _____

e) $7 \times 5 =$ _____ **f)** $3 \times 7 =$ _____ **g)** $6 \times 8 =$ _____ **h)** $8 \times 8 =$ _____

Practice

1. **a)** Use the hundred chart. Colour all the numbers in which the ones digit and the tens digit add up to 9.

b) What multiples have you coloured?

_____

_____

_____

Hundred Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2. Play this game with 2 or 3 friends.

You will need:
2 sets of cards numbered 2 to 10
3 counters for each player
a small container

- ➤ Take 3 counters each.
- ➤ Shuffle the cards and put them in a pile face down.
- ➤ Turn over the top card. This is the number you will start with.
- ➤ Go around the group. Say one number each, counting on by the number on the card.
  The player who says 100 or a number over 100 puts a counter in the container.
  The next player turns over a new card and starts the counting.
- ➤ The first person to get rid of all 3 counters wins.

Stretch Your Thinking

1. **a)** In the game above, which start numbers will result in a player saying 100?

_____

b) Which start numbers will result in a player going over 100?

_____

UNIT 3

STUDENT BOOK 4 LESSON

Other Strategies for Multiplying

Quick Review

At Home At School

You can multiply by adding groups to the facts you know.

➤ Use facts with 2 to multiply by 3.
To find 3×9:

$2 \times 9 = 18$
$1 \times 9 = 9$ > $18 + 9 = 27$

So, $3 \times 9 = 27$

➤ Use facts with 5 to multiply by 6.
To find 6×8:

$5 \times 8 = 40$
$1 \times 8 = 8$ > $40 + 8 = 48$

So, $6 \times 8 = 48$

➤ Use facts with 5 and 2 to multiply by 7.
To find 7×6:

$5 \times 6 = 30$
$2 \times 6 = 12$ > $30 + 12 = 42$

So, $7 \times 6 = 42$

➤ Use facts with 10 to multiply by 9.
To find 9×8:

$10 \times 8 = 80$
$1 \times 8 = 8$ > $80 - 8 = 72$

So, $9 \times 8 = 72$

➤ To multiply by an even factor, use a half, and then double.
To find 8×7:
Half of 8 is 4.

$4 \times 7 = 28$
$28 \times 2 = 56$

So, $8 \times 7 = 56$

Try These

1. **a)** $3 \times 7 =$ ____ **b)** $3 \times 5 =$ ____ **c)** $3 \times 8 =$ ____

2. **a)** $6 \times 9 =$ ____ **b)** $6 \times 5 =$ ____ **c)** $6 \times 7 =$ ____

3. **a)** $7 \times 7 =$ ____ **b)** $7 \times 9 =$ ____ **c)** $7 \times 8 =$ ____

4. **a)** $9 \times 9 =$ ____ **b)** $9 \times 7 =$ ____ **c)** $9 \times 4 =$ ____

5. **a)** $6 \times 3 =$ ____ **b)** $8 \times 6 =$ ____ **c)** $4 \times 9 =$ ____

Practice

1. Name two facts that help you find each product.

a) 4×9 _____

b) 7×6 _____

c) 6×8 _____

d) 9×6 _____

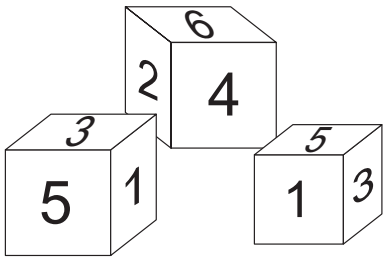
e) 4×8 _____

f) 8×7 _____

2. Show how you could use the product of 4×6 to find the product of 8×6.

_____

3. Play this game with a partner.



You will need:
3 number cubes labelled 1 to 6
2 calculators

- Take turns to roll all 3 number cubes.
  Put the one with the greatest number aside.
  If you roll more than one greatest number, put only one aside.
  Roll the other 2 number cubes.
  Put the one with the greater number aside.
  Roll the last number cube.
- Add the numbers on your first 2 cubes.
  Multiply the total by the number on your third cube.
  The product is your score.
- Keep playing until one player reaches a total of 200.

Stretch Your Thinking

Show how you could use a half, than double to find the product 6×9.

_____

UNIT 3

STUDENT BOOK 5 LESSON

Using Patterns in a Multiplication Chart

Quick Review

At Home At School

You can use patterns to remember multiplication facts.

➤ In a multiplication chart, there are matching numbers on each side of the diagonal from 1 to 81.

If you know... then you know:

$5 \times 7 = 35$ $7 \times 5 = 35$

$9 \times 8 = 72$ $8 \times 9 = 72$

×	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

➤ There are patterns in the multiplication facts with 9.

- The digits in the product always add to 9.

  $5 \times 9 = 45$ ← $4 + 5 = 9$ $8 \times 9 = 72$ ← $7 + 2 = 9$

- The number multiplied by 9 is always 1 more than the tens digit in the product.

  6 $\times 9 =$ **5**4 ← 6 is 1 more than 5. **4** $\times 9 =$ **3**6 ← 4 is 1 more than 3.

Try These

1. Complete.

a) $8 \times 9 =$ ___ $\times 8$ **b)** $3 \times 7 = 7 \times$ ___ **c)** $6 \times 4 =$ ___ $\times 6$

2. Multiply.

a) $9 \times 6 =$ _____ **b)** $5 \times 9 =$ _____ **c)** $2 \times 9 =$ _____

d) $9 \times 8 =$ _____ **e)** $7 \times 9 =$ _____ **f)** $4 \times 9 =$ _____

g) $8 \times 9 =$ _____ **h)** $9 \times 7 =$ _____ **i)** $9 \times 4 =$ _____

Practice

1. Play this game with a partner.

You will need:
25 counters
2 calculators
paper and pencils

- ➤ Decide on a number from 2 to 9. This number will be the game factor.
- ➤ Player A: Place a counter on any number on the board and multiply by the game factor. Record the product as your score.
- ➤ Player B: Place a counter on a number adjacent to Player A's number. Multiply by the game factor and record your score.
- ➤ Continue playing. On each turn, place a counter next to the last one played. If an adjacent square is not empty, place the counter in any empty square.
- ➤ When the board is filled, the winner is the player with the highest total score.

When something is *adjacent* to something else, it is next to it.

1	7	8	4	2
5	8	3	6	4
0	3	4	7	1
2	7	2	9	5
9	1	6	3	0

Stretch Your Thinking

Suppose you are Player A. Where will you place the first counter? Explain.

UNIT 3

STUDENT BOOK 7 LESSON

Using Arrays to Divide

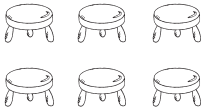
Quick Review

At Home At School

There are 6 stools.
They will be put into equal rows.
How many stools could be in each row?

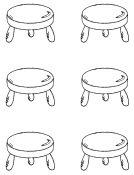
You can make an array to show each way.

2 rows of 3



2 rows of
3 stools
$6 \div 2 = 3$

3 rows of 2

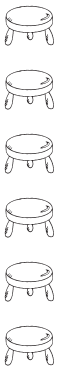


3 rows of
2 stools
$6 \div 3 = 2$

1 row of 6

1 row of
6 stools
$6 \div 1 = 6$

6 rows of 1

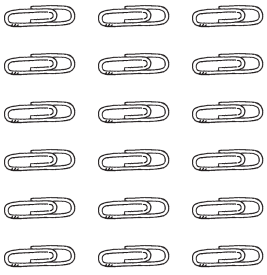


6 rows of
1 stool
$6 \div 6 = 1$

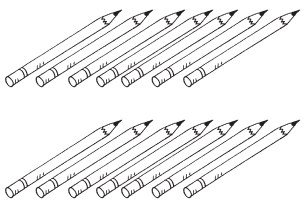
Try These

1. Use the array to complete the sentence.

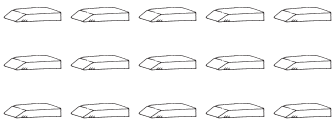
a) $18 \div 6 =$ _____



b) $14 \div 2 =$ _____

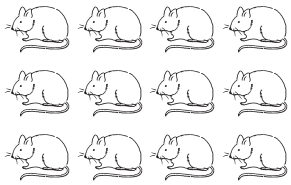
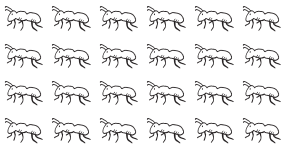
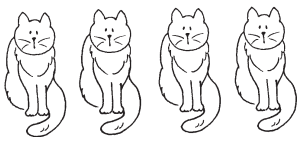


c) $15 \div 3 =$ _____



Practice

1. Write a division sentence for each array.

a)	**b)**	**c)**
 _____	 _____	 _____

2. Draw an array for each division sentence.

a) 15 ÷ 5 = _____	**b)** 12 ÷ 2 = _____	**c)** 24 ÷ 6 = _____

3. Use counters. Make an array to find each answer.

a) 20 ÷ 4 = _____ **b)** 16 ÷ 2 = _____ **c)** 6 ÷ 1 = _____

d) 18 ÷ 9 = _____ **e)** 30 ÷ 5 = _____ **f)** 28 ÷ 7 = _____

Stretch Your Thinking

There are 24 members in the Boy Scout troop.
They will march in the parade in equal rows.
How many Boy Scouts could be in each row?
Find as many answers as you can.

_____

UNIT 3

STUDENT BOOK 8 LESSON

Relating Multiplication and Division

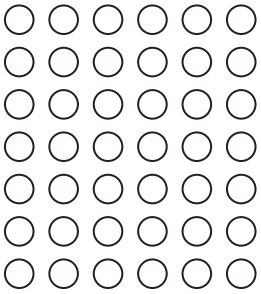
Quick Review

At Home At School

There are 42 students who want to play hockey.
There are 6 players on a team.
How many teams can there be?

To find out, divide: 42 ÷ 6
Here are two ways to find 42 ÷ 6:

- Make an array of 42 counters with 6 counters in each row.
  There are 7 rows.
  So: 42 ÷ 6 = 7
  There can be 7 teams.
- You can think about multiplication to divide.
  Every division fact has a related multiplication fact.



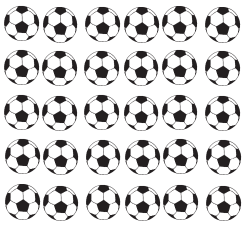
Think:

6 times which number is 42?
You know 6 × 7 = 42.
So, 42 ÷ 6 = 7

Try These

1. Write a multiplication fact and a division fact for each array.

a)



_____

b)

_____

2. Use a related multiplication fact to help you divide. Write the related fact.

a) 20 ÷ 4 = _____

_____

b) 30 ÷ 5 = _____

_____

c) 14 ÷ 7 = _____

_____

Practice

1. Divide. Draw a picture to show your work.

24 ÷ 3 = _____	30 ÷ 5 = _____
18 ÷ 2 = _____	5 ÷ 5 = _____

2. Use a related multiplication fact to divide.

a) 18 ÷ 6 = _____ **b)** 45 ÷ 5 = _____ **c)** 56 ÷ 7 = _____ **d)** 35 ÷ 5 = _____

e) 24 ÷ 4 = _____ **f)** 27 ÷ 3 = _____ **g)** 12 ÷ 2 = _____ **h)** 9 ÷ 1 = _____

3. Write a division fact to solve each question.

a) 24 children
6 children on a team
How many teams?

_____

b) 18 cookies
9 cookies on a plate
How many plates?

_____

c) 42 cans
7 cans in each row
How many rows?

_____

Stretch Your Thinking

Find all the ways of dividing 36 students into equal teams.
Write a division fact to show each way.

_____

_____

_____

_____

UNIT 3

STUDENT BOOK 9 LESSON

Dividing by Numbers from 1 to 9

Quick Review

At Home At School

Here's how to divide by 8 and 9.

48 ÷ 8
8 × □ = 48
8 × 6 = 48
So, 48 ÷ 8 = 6
Also, 48 ÷ 6 = 8

Think multiplication.

Related Facts
48 ÷ 8 = 6
48 ÷ 6 = 8
6 × 8 = 48
8 × 6 = 48

63 ÷ 9
9 × □ = 63
9 × 7 = 63
So, 63 ÷ 9 = 7
Also, 63 ÷ 7 = 9

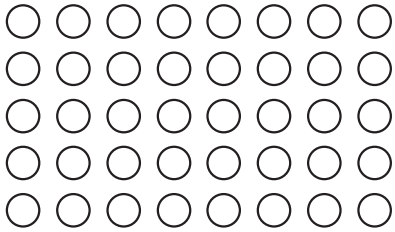
Think multiplication.

Related Facts
63 ÷ 9 = 7
63 ÷ 7 = 9
7 × 9 = 63
9 × 7 = 63

Try These

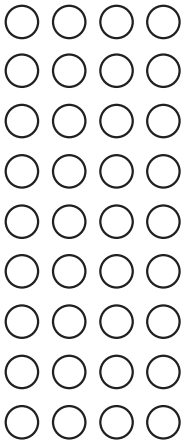
1. Write two multiplication facts and two division facts for each array.

a)



_____
_____
_____
_____

b)



_____
_____
_____
_____

2. Divide.

a) 27 ÷ 9 = _____ **b)** 16 ÷ 8 = _____

c) 45 ÷ 9 = _____ **d)** 64 ÷ 8 = _____

e) 36 ÷ 9 = _____ **f)** 32 ÷ 8 = _____

Practice

1. Find the product. Then write a related multiplication fact and two related division facts.

a) $3 \times 9 =$ _____

_____

_____

_____

b) $8 \times 5 =$ _____

_____

_____

_____

c) $9 \times 7 =$ _____

_____

_____

_____

2. Divide.

a) $49 \div 7 =$ _____ **b)** $81 \div 9 =$ _____ **c)** $45 \div 5 =$ _____

d) $27 \div 3 =$ _____ **e)** $56 \div 8 =$ _____ **f)** $36 \div 6 =$ _____

3. Write a division sentence to show each answer.

a) There are 28 days in February. How many weeks is that?

_____

b) There are 3 tennis balls in a carton.
How many cartons are needed for 27 balls?

_____

c) There are 54 students in the band. They march in 6 equal rows.
How many students are in each row?

_____

d) There are 9 kiwi fruit in a small basket.
A box contains 72 kiwi fruit in a single layer.
How many small baskets of kiwi fruit can be filled?

_____

Stretch Your Thinking

Complete this division sentence in as many ways as you can. $\square \div \square = 8$

_____

_____

UNIT 3

STUDENT BOOK 10 LESSON

Pose and Solve Problems

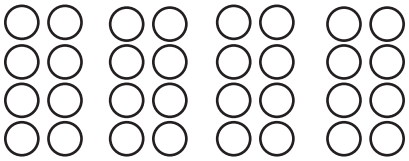
Quick Review

At Home At School

Thirty-two students signed up for swimming lessons.
The classes are taught in groups of 8.
How many classes will there be?

Here are 2 ways to find out.

➤ Use a model.
Use 32 counters.
Put them into groups of 8.
So, there will be 4 classes.



➤ Guess, then test.
Suppose you guess 5 classes.
Test: $5 \times 8 = 40$; that is too many students.
Guess again: $4 \times 8 = 32$; that is the correct number.
So, there will be 4 classes.

Try These

Use counters or guess, then test. Show your work.

1. Twenty-three students go on a camping trip.
Each tent holds 4 students.
How many tents will be needed?

_____

2. Ramzi has 4 cages of gerbils.
There are 5 gerbils in each cage.
How many gerbils does Ramzi have?

_____

Practice

1. Suri picked 72 apples. Each basket holds 9 apples.
How many baskets did she need?

_____

2. Enrico saw 16 bicycles and tricycles in the playground.
He counted a total of 36 wheels.
How many bicycles were there? How many tricycles?

_____

_____

_____

_____

_____

3. Use the data in the table.
Write a story problem you can solve using multiplication or division.
Solve your problem.

Product	Number in a Box
Tennis balls	3
Baseballs	6
Hockey pucks	4

_____

_____

Stretch Your Thinking

Chase had 81 chickens. He sold an equal number of chickens to each of 3 customers and had 54 chickens left. How many chickens did Chase sell to each customer?

_____

_____

UNIT 4

STUDENT BOOK 1 LESSON

Calendar Time

Quick Review

At Home At School

Gillian's cat was born on May 15th, 2004.

We can write this date in different ways:

➤ We use 2 digits for the month and 2 digits for the day.

2004 (Year) 05 (5th month) 15 (15th day)

This date is written in **metric notation**.

➤ This way of writing the date uses two 2 digits for the year too.

04	05	15	05	15	04	15	05	04
Year	Month	Day	Month	Day	Year	Day	Month	Year

Try These

1. Write each date in metric notation.

a) November 30th, 2005 _____ **b)** March 17th, 1998 _____

c) April 7, 2000 _____ **d)** June 26, 1959 _____

2. Write each date using words and numbers.

a) 1976 10 14 (Year Month Day) _____ **b)** 2007 12 01 (Year Month Day) _____

c) 01 03 95 (Month Day Year) _____ **d)** 08 04 06 (Month Day Year) _____

e) 05 06 00 (Day Month Year) _____ **f)** 09 05 12 (Day Month Year) _____

Practice

1. Write each date using words and numbers.

a) 2001 09 08 _____ **b)** 1989 12 11 _____

c) 2009 10 02 _____ **d)** 2004 04 03 _____

2. Use words and numbers to record the date of birth of 2 classmates.
Then write each date in metric notation.

a) _____

b) _____

3. Write each date in metric notation.

a) the seventh day of last month _____

b) the first day of this year _____

c) the date of your fifth birthday _____

d) the last day of next month _____

e) the day after April 19th, 2008 _____

f) the day before June 1st, 1987 _____

g) the day after December 31st, 2010 _____

4. In what ways can the date 03 04 79 be interpreted?

_____

Stretch Your Thinking

Benito turned 10 on the 3rd day of the 11th month of 2005.
Write this date in as many ways as you can.

_____

UNIT 4

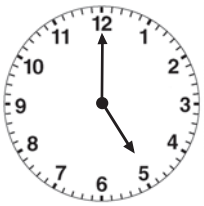
STUDENT BOOK 2 LESSON

Exploring Time

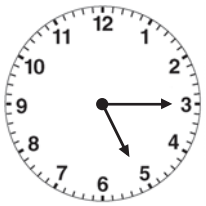
Quick Review

At Home / At School

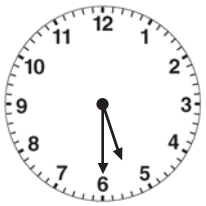
➤ A clock with numbers and hands is an **analog clock**.



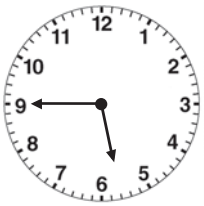
5 o' clock
5:00



quarter after 5
5:15

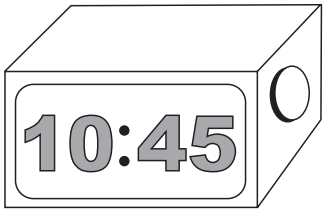


half past 5
5:30



quarter to 6
5:45

➤ A clock with numbers and no hands is a **digital clock**.



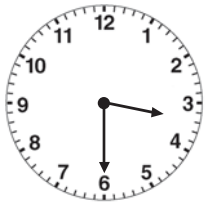
The clock shows 45 minutes after 10 o' clock.

We say: "Ten forty-five."

Try These

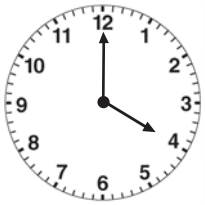
1. Write each time two different ways.

a)



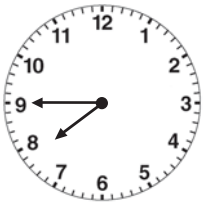
_____
_____

b)



_____
_____

c)



_____
_____

2. Write each time in a different way.

a) 2:00 _____

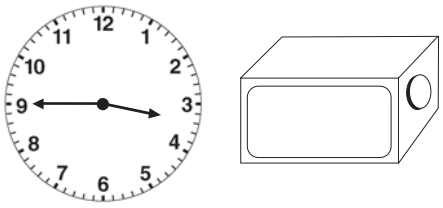
b) quarter after 9 _____

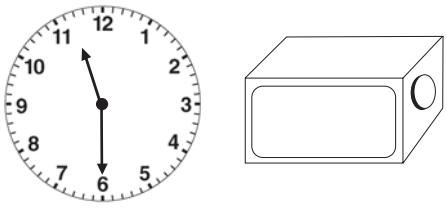
c) 8:30 _____

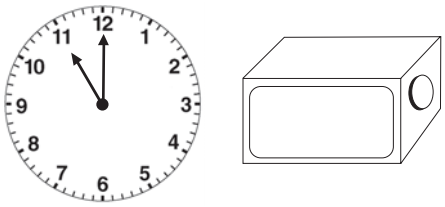
d) twelve forty-five _____

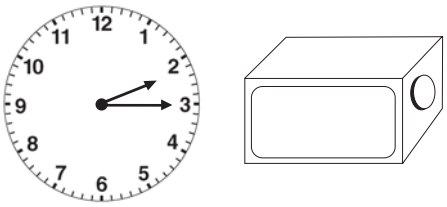
Practice

1. Read the time on each analog clock.
Write the same time on the digital clock.

a) 

b) 

c) 

d) 

2. Write each time in a different way.

a) quarter after 12 _____

b) 7:45 _____

c) nine o'clock _____

d) three thirty _____

e) 7:15 _____

f) half past one _____

g) six forty-five _____

h) quarter to four _____

3. Caleb did push-ups for 15 minutes. He started at 4:30.
At what time did he finish? _____

Stretch Your Thinking

Millie started baking at 3:45. She finished at 5:00.
How long did Millie spend baking? Explain how you know.

_____

_____

_____

UNIT 4

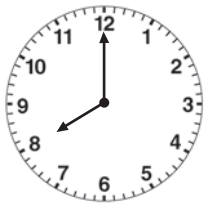
STUDENT BOOK 3 LESSON

Telling Time

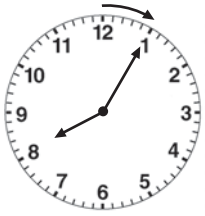
Quick Review

At Home / At School

It takes 5 minutes for the minute hand to move from one number to the next number.



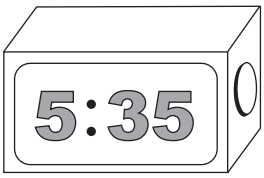
8 o'clock
8:00



5 minutes after 8 o'clock
8:05

This analog clock shows
50 minutes after 12 o'clock or
10 minutes before 1 o'clock
12:50

It is twelve fifty or ten to one.



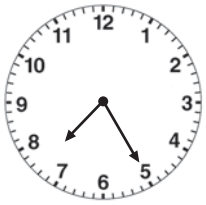
This digital clock shows
35 minutes after 5 o'clock
5:35

It is five thirty-five.

Try These

1. Write the time shown on each analog clock.

a)



_____

b)

_____

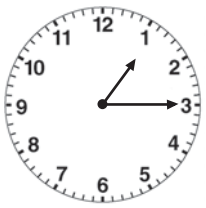
c)

_____

Practice

1. Write each time two different ways.

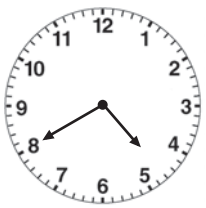
a)



_____

_____

b)



_____

_____

c)

_____

_____

2. Skip count to find how many minutes are between each pair of times.

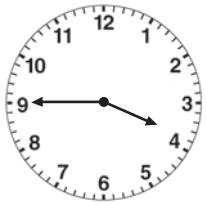
a) 6:15 and 6:20 _____

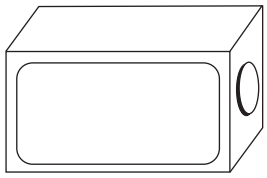
b) 8:10 and 8:40 _____

c) 2:40 and 2:55 _____

d) 12:00 and 12:30 _____

3. Read the time on the analog clock.
Write the same time on the digital clock.



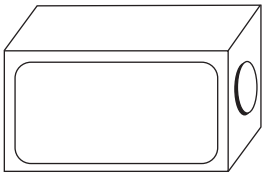


4. What is another way you could write twenty-five to seven?

_____

Stretch Your Thinking

Lester left the library at 20 minutes before 5:00.
Show the time on the digital clock.



UNIT 4

STUDENT BOOK 4 LESSON

Elapsed Time

Quick Review

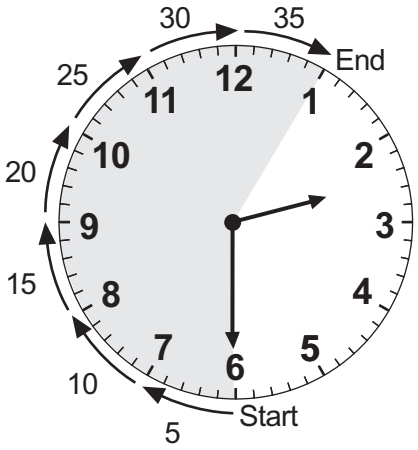
At Home At School

The amount of time from the start to the end of an activity is the **elapsed time**.

Oscar practised on his drums from 2:30 P.M. to 3:05 P.M.

To find the elapsed time in minutes, count on by 5s.

Oscar practised for 35 minutes.



Try These

Use a clock to help you.

1. Find each elapsed time. Write the answer in minutes.

a) 2:40 P.M. to 2:55 P.M. _____

b) 6:05 A.M. to 6:40 A.M. _____

c) 7:55 P.M. to 8:35 P.M. _____

d) 11:45 A.M. to 12:25 P.M. _____

2. Tell what time it will be 25 minutes later.

a) It's 4:30 P.M. _____

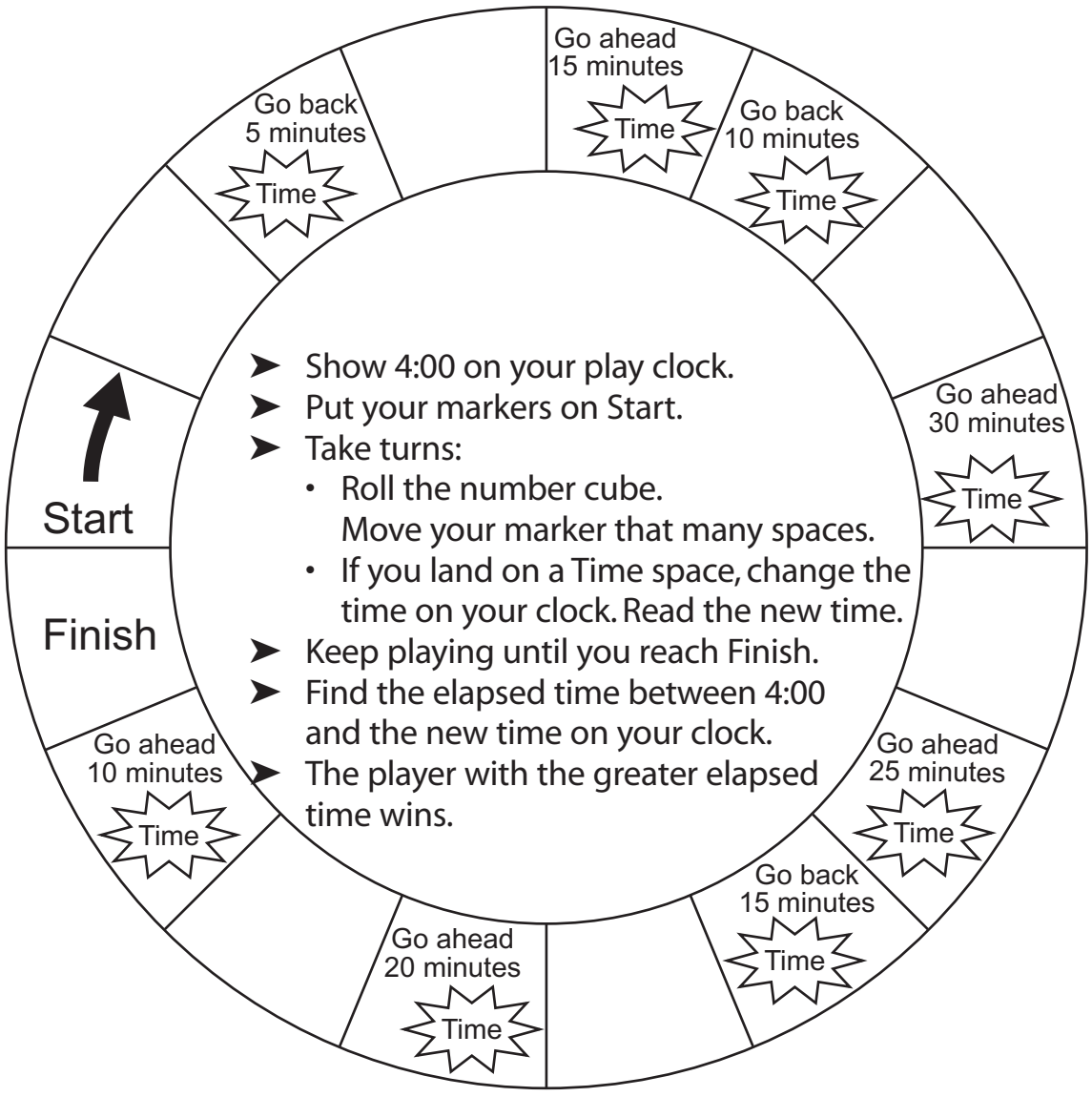
b) It's 1:25 P.M. _____

c) It's 8:20 A.M. _____

d) It's 5:15 A.M. _____

Practice

1. Play this game with a partner.
You will need:
2 play clocks
2 markers
1 number cube labelled 1 to 6



Stretch Your Thinking

It is 11:20 P.M. What time will it be in 2 hours 25 minutes? _____

UNIT 4

STUDENT BOOK 5 LESSON

Telling Time to the Minute

Quick Review

At Home At School

When the minute hand moves from one mark on the clock to the next mark, it takes 1 minute of time.

9:25

9:26

You can read times after the half-hour in different ways.

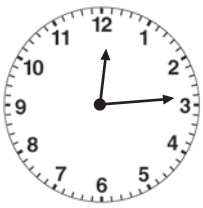
52 minutes after 4 o'clock or 4:52

8 minutes before 5 o'clock or 8 minutes to 5

Try These

1. Write the time shown on each clock.

a)

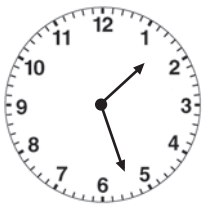


_____

b)

_____

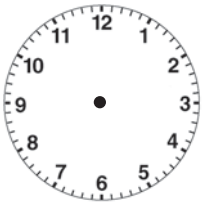
c)



_____

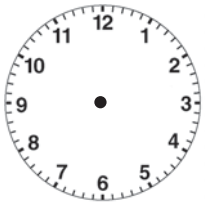
2. Show the time on each clock.

a)



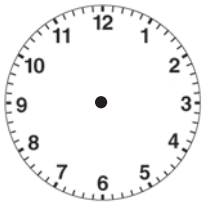
9:58

b)



3:39

c)



10:21

Practice

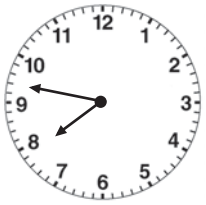
1. Write each time two different ways.

a)

_____

_____

b)

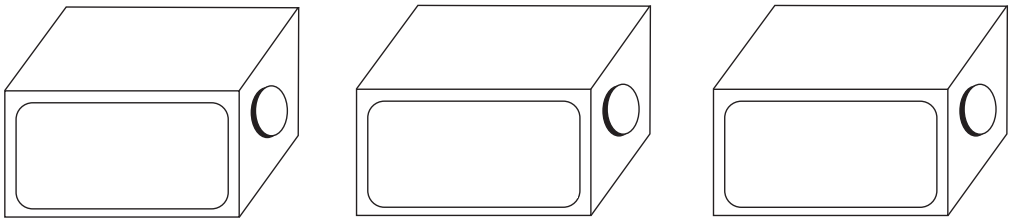


_____

_____

2. Show the time on each digital clock.

a) quarter to five **b)** half past eleven **c)** quarter past six



3. Write something you might be doing at each time.

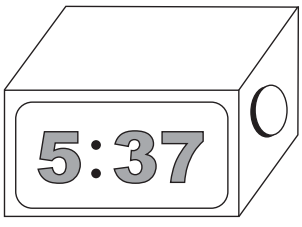
a) 12:04 P.M. _____

b) 3:58 A.M. _____

c) 9:25 P.M. _____

Stretch Your Thinking

The sum of the digits on this digital clock is 15.
At what other times will the digits add up to 15?
Give at least 2 answers.



_____

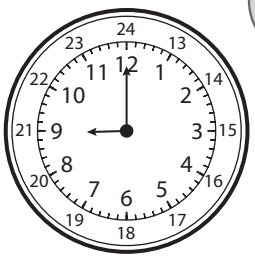
UNIT 4

STUDENT BOOK 6 LESSON

The 24-Hour Clock

At Home At School

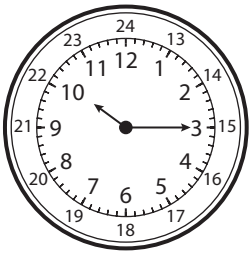
Quick Review



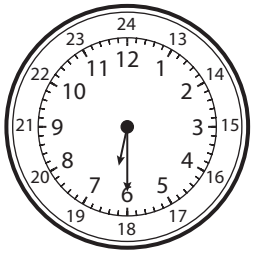
This is a 24-h clock.
There are 24 h in one day.
From midnight to noon, the hours are from 0 to 12.
From 1 P.M. to midnight, the hours are from 13 to 24.

When we use the 24-h clock, we use 4 digits to write the time.

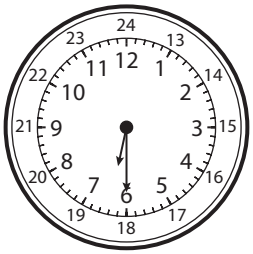
10:15 A.M. is written 10:15.



6:30 A.M. is written 06:30.



6:30 P.M. is written 18:30.



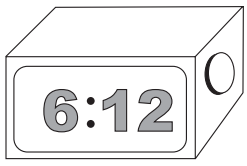
Try These

1. Write each time using a 24-h clock.

a) 8:10 A.M. _____ **b)** 12:00 noon _____ **c)** 10:20 P.M. _____

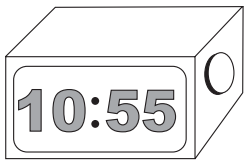
2. Write each time using A.M. or P.M.

a)



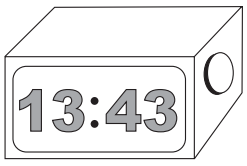
_____

b)



_____

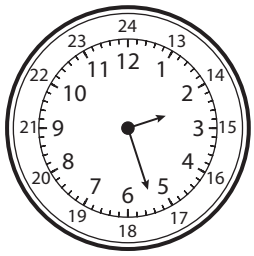
c)



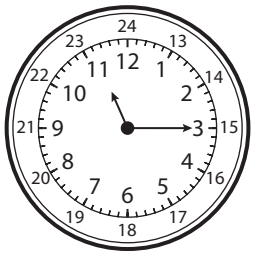
_____

Practice

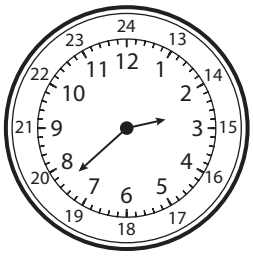
1. Write each time using a 24-h clock. Assume it is past noon.

a) 

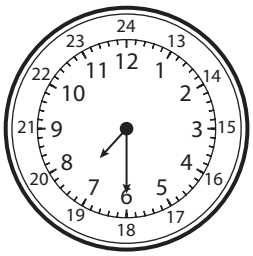
_____

b) 

_____

c) 

_____

d) 

_____

2. Write each time using A.M. or P.M.

a) 

_____

b) 

_____

c) 

_____

d) 

_____

3. What time is it?

a) 2 h after 17:25 _____

b) 7 h after 18:45 _____

c) 6 h before 14:30 _____

d) 12 h before 07:21 _____

e) 20 min after 11:55 _____

f) 45 min after 23:00 _____

4. Gerald arrived at school at 09:03. School starts at 09:00.

How late was Gerald? _____

5. Shu Ying started running on the treadmill at 07:45.

She stopped at 08:02. How long did Shu Ying run? _____

6. Mr. Albert fell asleep at 23:30 and slept for seven and one-quarter hours.

At what time did he wake up? _____

Stretch Your Thinking

Amanjeet left Winnipeg, MB, at 16:55 on Oct. 26. When she arrived in Edmonton, AB, her watch showed 08:05, Oct. 27. How long was the trip? _____

UNIT 4

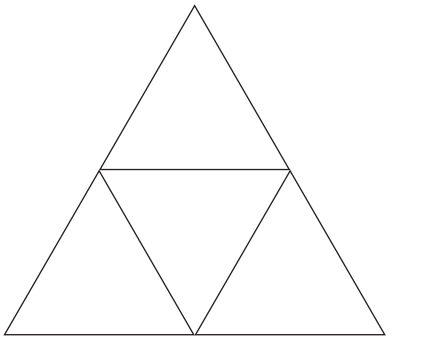
STUDENT BOOK 7 LESSON

Covering Shapes

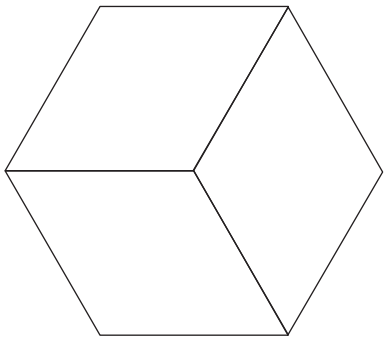
Quick Review

At Home At School

The number of units needed to cover a shape is the **area** of the shape.
The units must be the same size. The units must be *congruent*.
To find the area of a shape, count how many units cover it.



The unit is 1 green Pattern Block.
The area is 4 green Pattern Blocks.

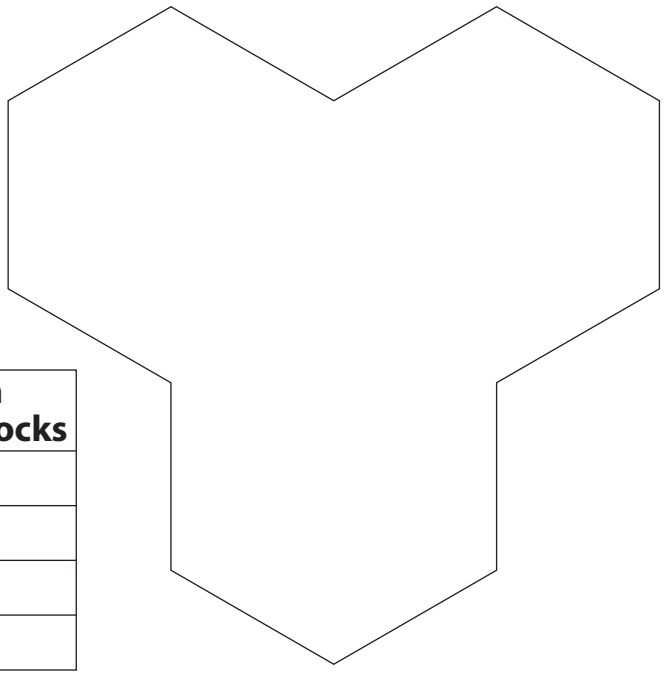


The unit is 1 blue Pattern Block.
The area is 3 blue Pattern Blocks.

Try These

1. **a)** Use yellow Pattern Blocks to find the area of this shape. Record the area in the table.

b) Repeat using red, blue, and green Pattern Blocks.

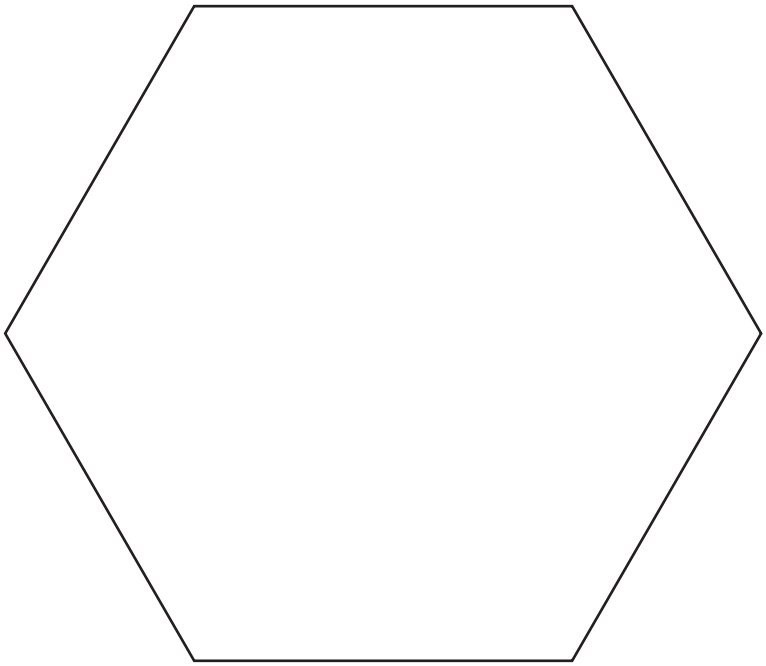


Unit	Area in Pattern Blocks
Yellow Pattern Block	
Red Pattern Block	
Blue Pattern Block	
Green Pattern Block	

Practice

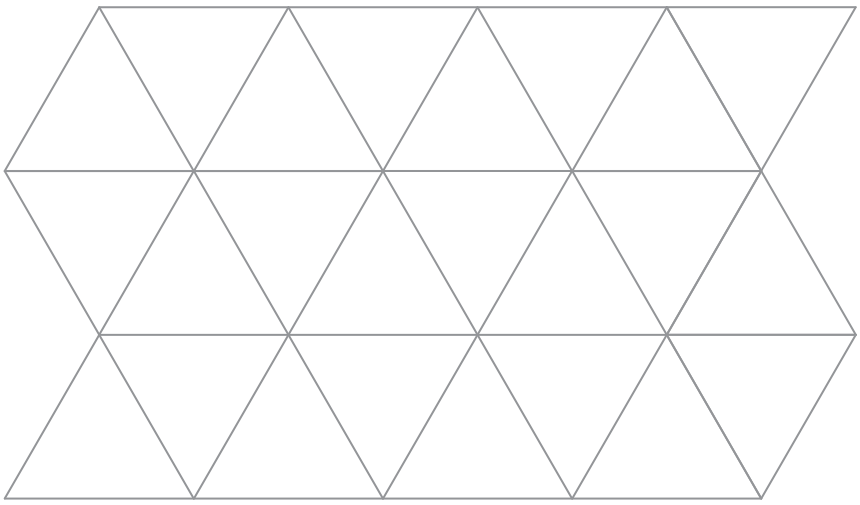
1. **a)** Estimate the area of the hexagon in red Pattern Blocks.
Then find the area in red Pattern Blocks and record it in the table.

b) Repeat the activity with blue and green Pattern Blocks.



Pattern Block Unit	Estimate	Area in Pattern Blocks
red		
blue		
green		

2. Use this grid.
Draw a shape with area 3 red Pattern Blocks.



Stretch Your Thinking

Suppose a shape has an area of 5 yellow Pattern Blocks.

What is its area in red Pattern Blocks? _____

In blue Pattern Blocks? _____

UNIT 4

STUDENT BOOK 8 LESSON

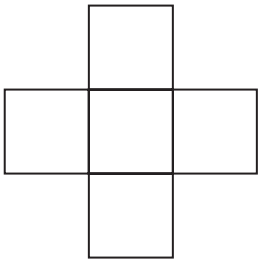
Exploring Area

Quick Review

At Home At School

To find the **area** of a shape, count the number of square units needed to cover it.

The area of this shape is 5 square units.



To find the area of a rectangle, you can count the number of square units or you can multiply.
There are 2 rows of 5 squares.
$2 \times 5 = 10$
The area of this rectangle is 10 square units.

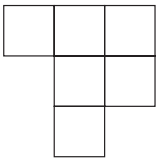
Try These

1. Find the area of each shape in square units.

a)

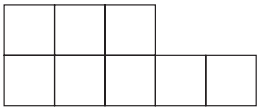
_____ square units

b)



_____ square units

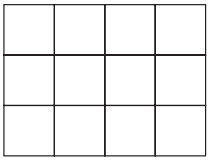
c)



_____ square units

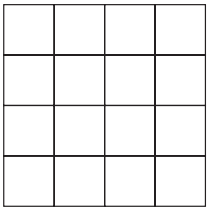
2. Write a multiplication fact to find the area of each rectangle.

a)



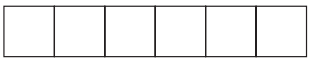
_____

b)



_____

c)



_____

Practice

1. Play this game with a partner.

You will need:
2 number cubes 2 pencil crayons of different colours

Take turns:
- ➤ Roll the cubes. Add the numbers to get an area in square units.
- ➤ Colour a shape with that area on the grid.
- ➤ No shape can overlap another shape.
- ➤ If there is no room left for your shape, you lose your turn.
- ➤ Continue until there is no more room on the grid.

Stretch Your Thinking

Find the total area you coloured on the grid. Then find the total area your partner coloured. Who coloured the greater area?

UNIT 4

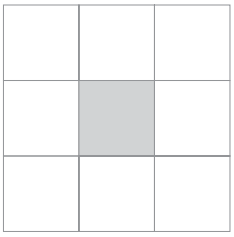
STUDENT BOOK 9 LESSON

Measuring Area in Square Centimetres

Quick Review

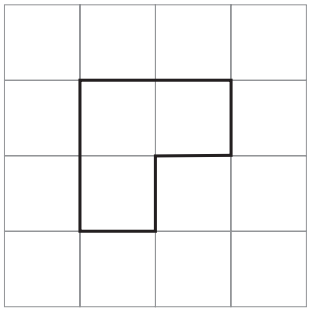
At Home At School

Each side of every square on this grid paper is 1 cm long.



Every square has an area of one **square centimetre** (1 cm^2).

You can use square centimetres to measure area.

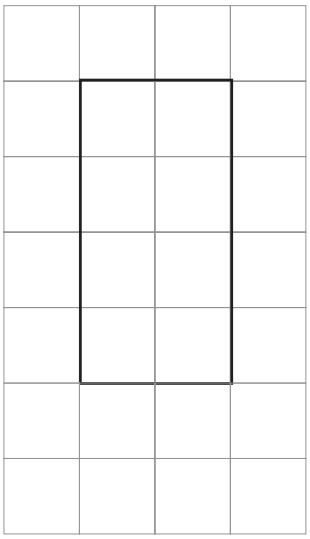


The area of this shape is 3 cm^2.

Try These

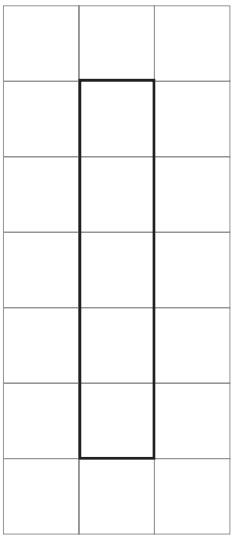
1. Find the area of each rectangle in square centimetres.

a)



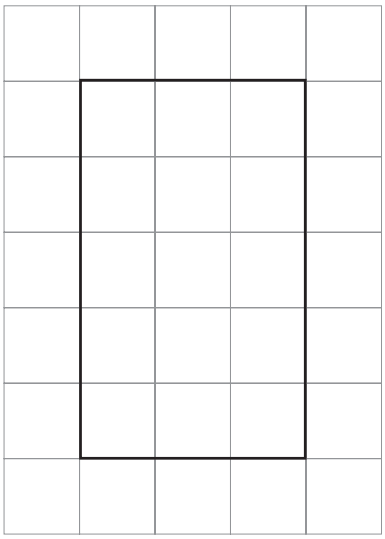
Area = _____

b)



Area = _____

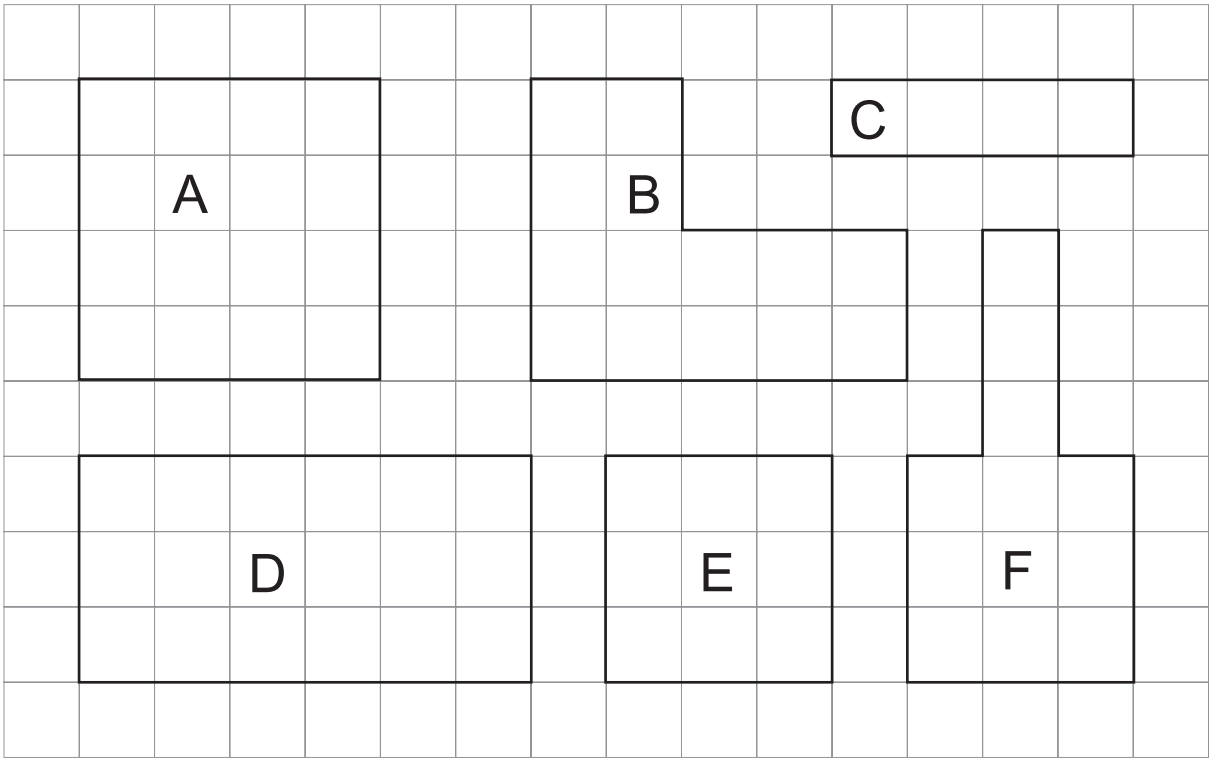
c)



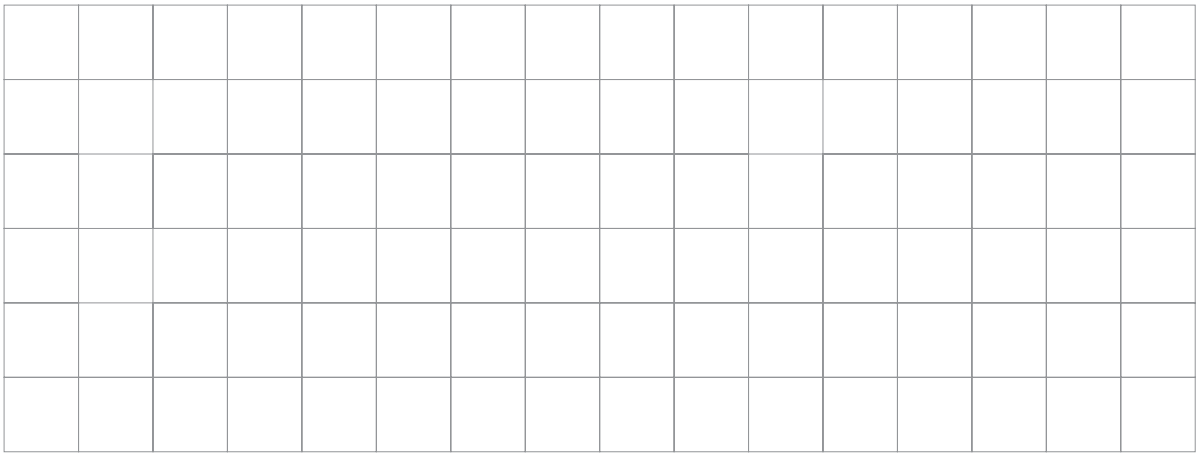
Area = _____

Practice

1. Write the area inside each shape in square centimetres.



2. Draw three different rectangles with area 12 cm^2.



Stretch Your Thinking

The area of a square is 25 cm^2. What are its length and width?

UNIT 4

STUDENT BOOK 10 LESSON

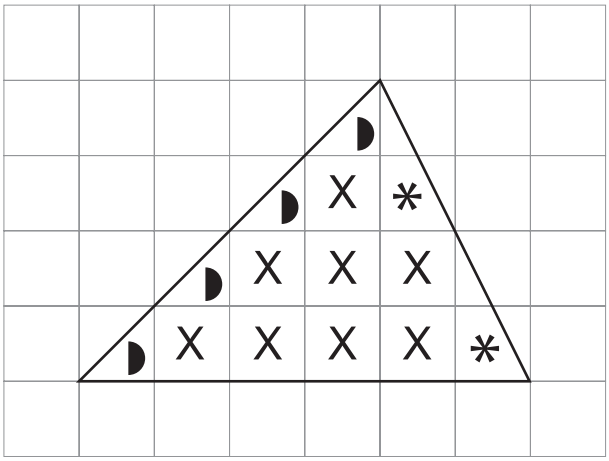
Estimating and Measuring Area

Quick Review

At Home At School

This is one way to find the approximate area of a triangle.

- Count each whole square.
  There are 8 whole squares.
- Count each half square.
  There are 4 half squares.
  This equals 2 whole squares.
- Count each part greater than $\frac{1}{2}$ a square as 1 square.
  There are 2 parts greater than $\frac{1}{2}$ a square.
- Ignore each part less than $\frac{1}{2}$ a square.
- Add to find the total number of squares: 8 + 2 + 2 = 12

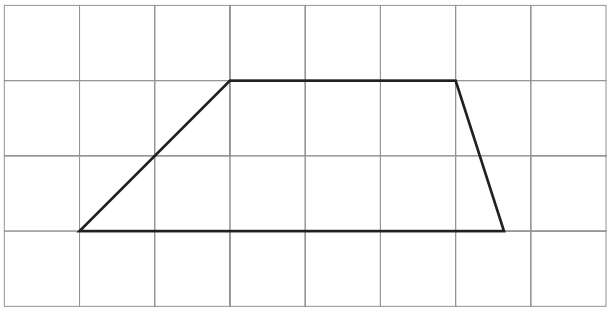


This triangle has an area of about 12 cm^2.

Try These

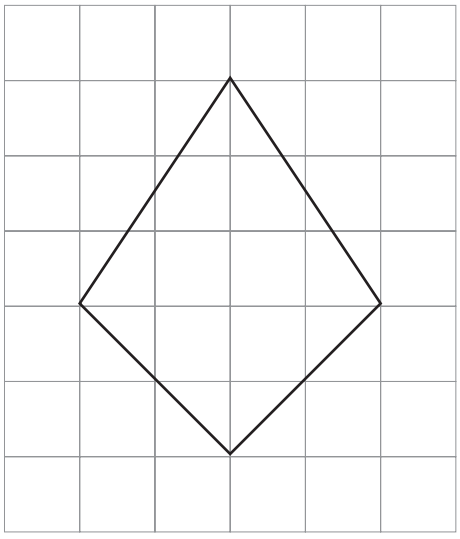
1. Find the approximate area of each polygon.

a)



Area = about _____

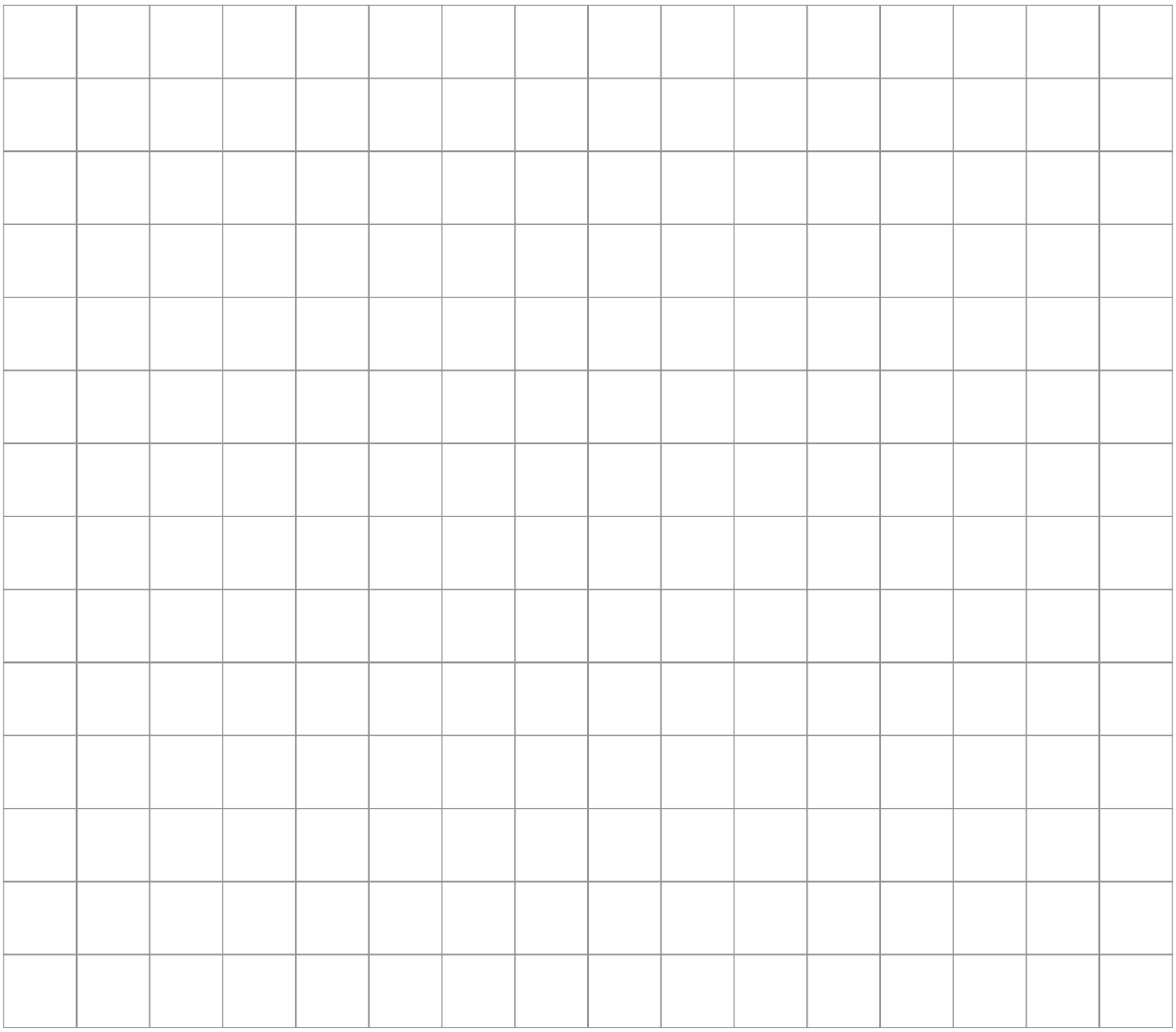
b)



Area = about _____

Practice

1. Draw a large clown's head on the grid. Use as many different polygons as you can. Find the approximate area of each part of the head.



	Nose	Mouth	One Eye	Whole Head
Approximate Area				

Stretch Your Thinking

Explain how you would find the approximate area of a leaf.

_____

_____

UNIT 4

STUDENT BOOK 11 LESSON

Finding Area in Square Metres

Quick Review

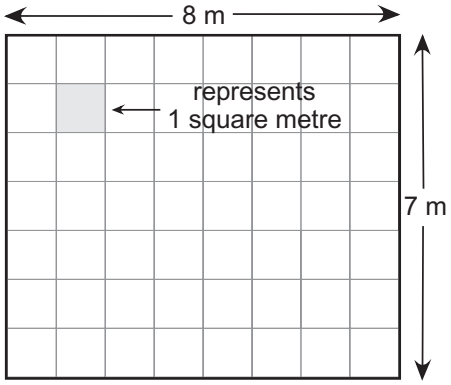
At Home At School

A square with side lengths of 1 m has an area of one **square metre** (1 m^2).

You can use grid paper to model a large area. Each square represents 1 m^2.

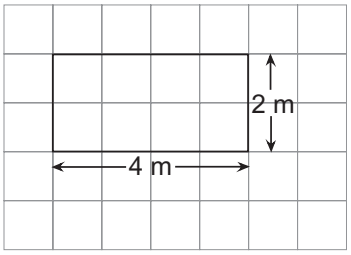
This is a model of a strawberry patch. It is 7 m wide and 8 m long. The model has 7 rows of 8 squares.
$7 \times 8 = 56$

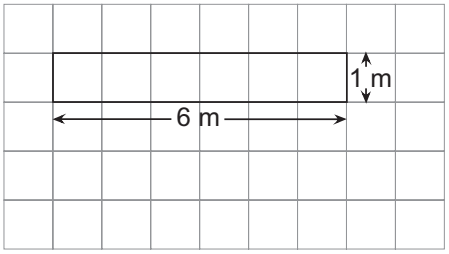
The area of the strawberry patch is 56 m^2.

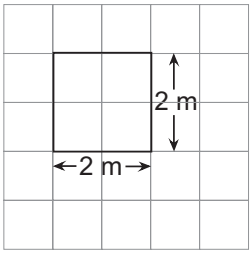


Try These

1. Find the area of each garden. Each square has an area of 1 m^2.







a) Area = _____ **b)** Area = _____ **c)** Area = _____

2. Put the rectangles in question 1 in order from least to greatest area.

_____

Practice

1. Here are the dimensions of each of Sheila's rectangular gardens. Model each of the gardens on the grid.

- ➤ Find the area of each garden.
- ➤ On each model, record the area and the type of flowers.

Sheila's Gardens

Flowers	Width	Length
Roses	7 m	3 m
Wildflowers	5 m	4 m
Pansies	1 m	8 m
Petunias	6 m	4 m
Daisies	10 m	2 m

Stretch Your Thinking

Sheila has a rectangular pumpkin patch with area 36 m^2.
The patch is 4 m wide. How long is it?

_____

UNIT 4

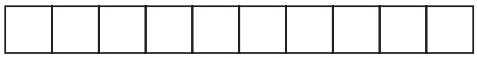
STUDENT BOOK 13 LESSON

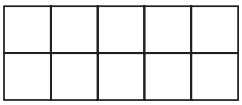
Exploring Rectangles with Equal Areas

Quick Review

At Home At School

Different rectangles can have equal areas.
Each rectangle below has an area of 10 m^2.



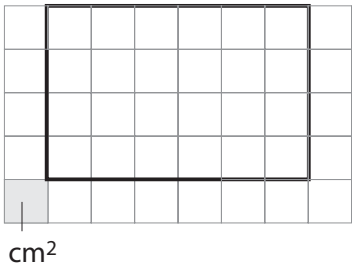


 = 1 m^2

Try These

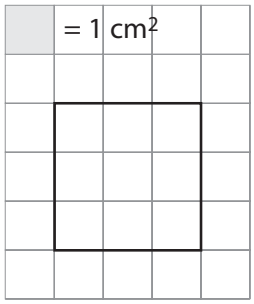
1. Find the area of each rectangle.

a)



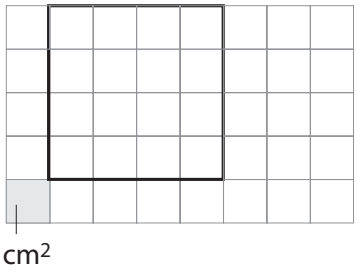
Area = _____

b)



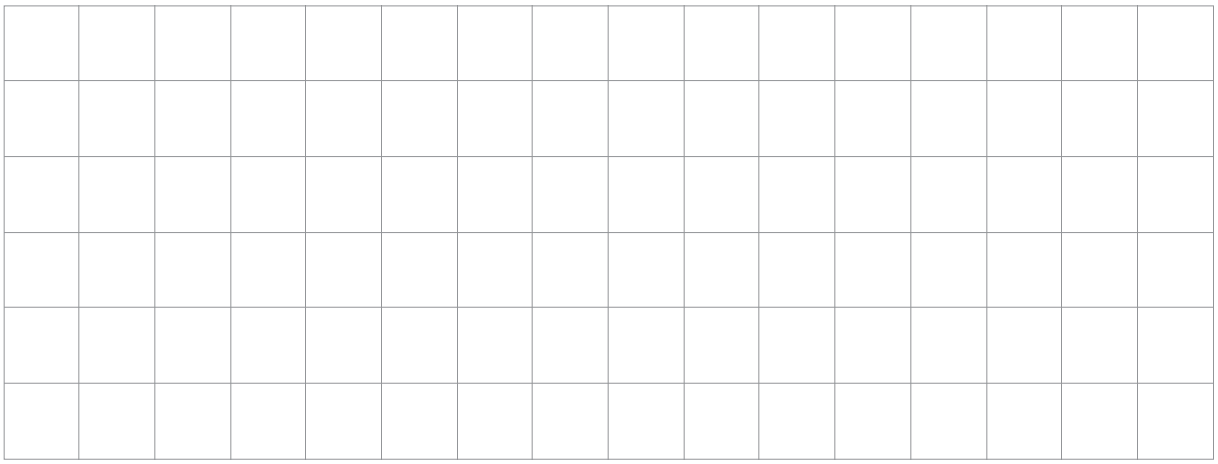
Area = _____

c)



Area = _____

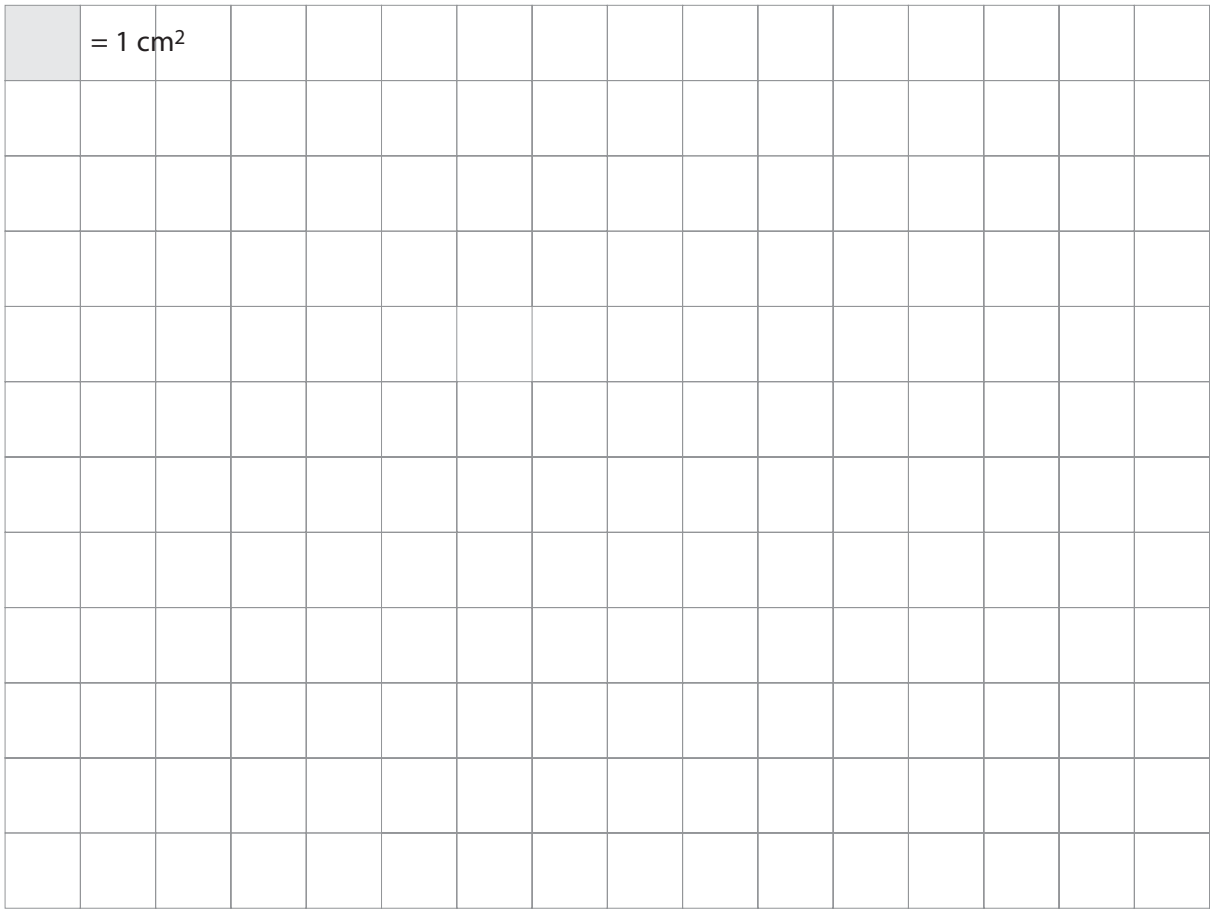
2. Draw all rectangles with an area of 12 cm^2.



Practice

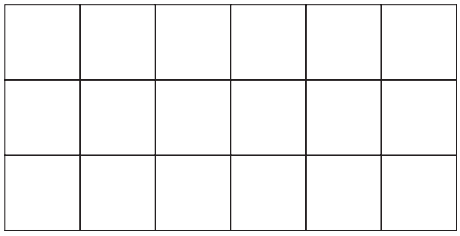
1. Work with a partner.

- ➤ Draw a rectangle on the grid.
- ➤ Record the area on the rectangle.
  Your partner draws a different rectangle with the same area, and records the area.
- ➤ Switch roles and repeat. Continue the game until the grid is full.



Stretch Your Thinking

Draw two rectangles on the grid, each with an area of 1 cm^2.



UNIT 5

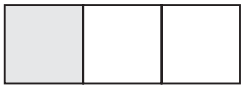
STUDENT BOOK 1 LESSON

Fractions of a Whole

Quick Review

At Home At School

➤ Fractions describe equal parts of a whole.



3 equal parts are thirds. $\frac{1}{3}$ is shaded.

5 equal parts are fifths. $\frac{4}{5}$ are shaded.

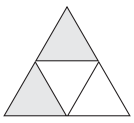
8 equal parts are eighths. $\frac{5}{8}$ are shaded.

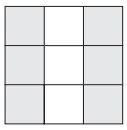
The **denominator** tells how many equal parts are in 1 whole. → $\frac{5}{8}$ ← The **numerator** tells how many equal parts are counted.

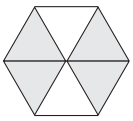
➤ A proper fraction represents an amount less than 1 whole.
$\frac{5}{8}$ is a proper fraction.

Try These

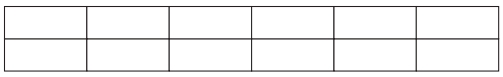
1. Write a fraction to tell what part of each shape is shaded.

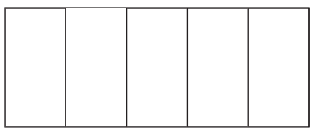
a)  _____

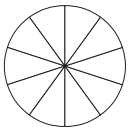
b)  _____

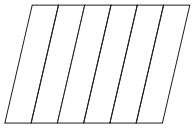
c)  _____

2. Colour some of the equal parts of each shape.
Write a fraction to describe the coloured parts.

a)  ____

b)  ____

c)  _____

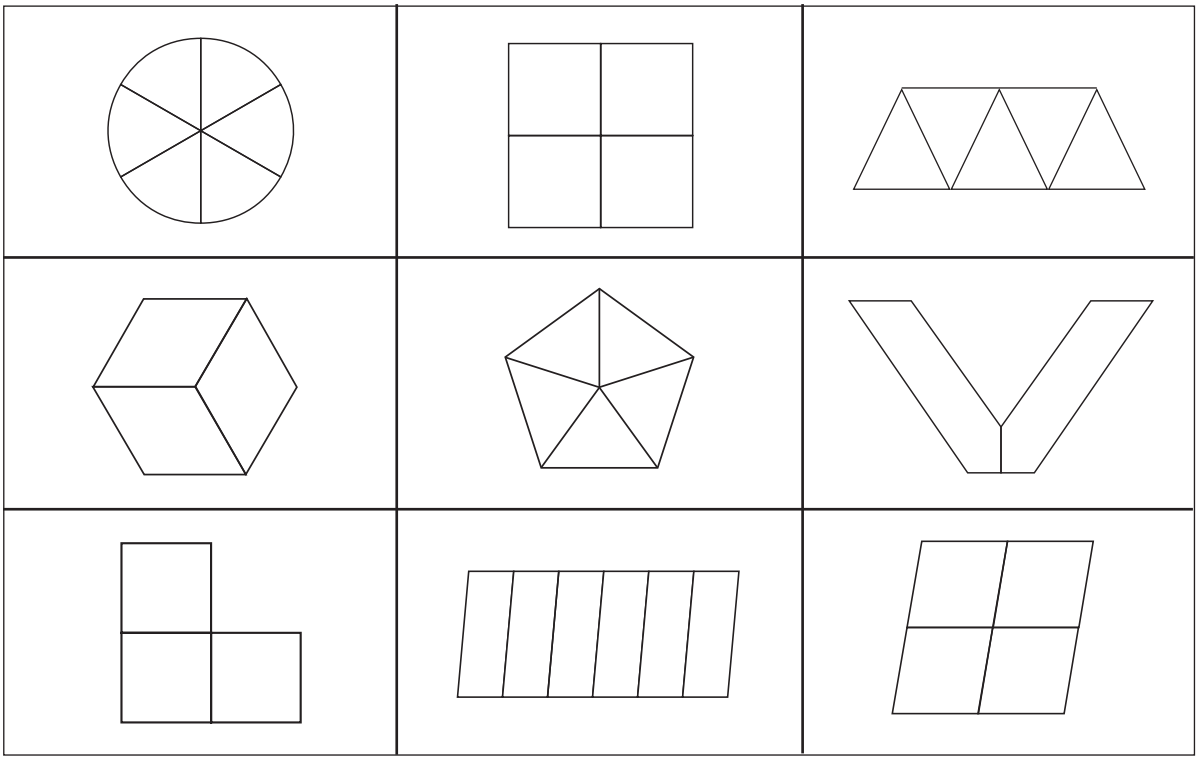
d)  _____

Practice

Play this game with a partner.
You will need:
2 number cubes labelled 1 to 6
2 pencil crayons or crayons of different colours

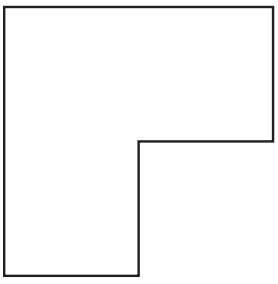
Take turns making fractions.

- Roll the number cubes. Use the greater number as the denominator.
- Find a shape on the game board that can be used to show your fraction. Colour the shape. Write the fraction.
- If there is no shape that can be used, you lose your turn.
- Keep playing until all the shapes are coloured.



Stretch Your Thinking

This shape represents $\frac{3}{5}$ of one whole.
Show what the whole might look like.



UNIT 5

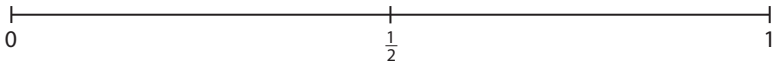
STUDENT BOOK 2 LESSON

Fraction Benchmarks

Quick Review

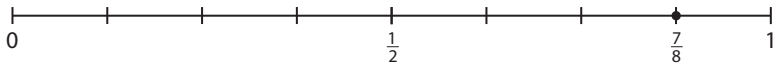
At Home At School

This number line shows the benchmarks 0, $\frac{1}{2}$, and 1.

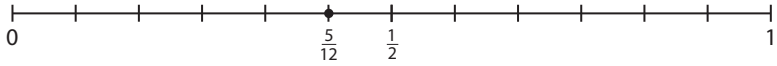


You can use number lines to find which benchmark a fraction is closer to.

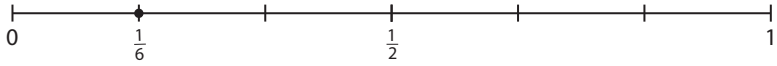
$\frac{7}{8}$ is closer to 1.



$\frac{5}{12}$ is closer to $\frac{1}{2}$.
It is a little less than $\frac{1}{2}$.



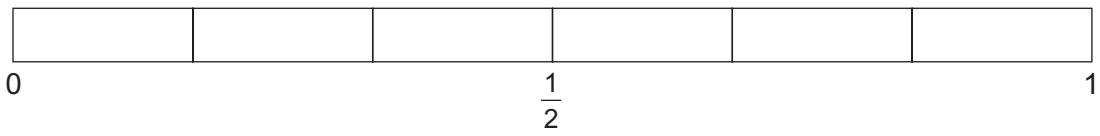
$\frac{1}{6}$ is closer to 0.



Try These

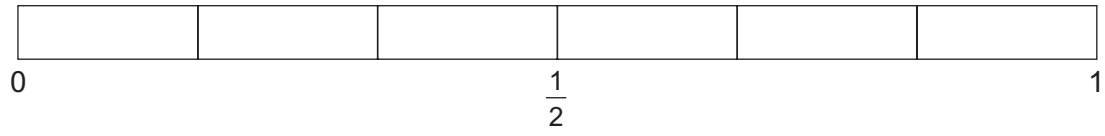
1. Colour each strip to show a fraction.
Write whether the fraction is closer to 0, $\frac{1}{2}$, or 1.

a)



Closer to _____

b)



Closer to _____

2. A trash can is not quite full. Write a fraction that might tell how full it is.

_____

Practice

Play this game with a partner.

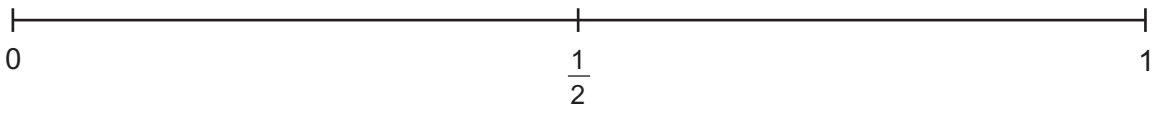
You will need:
index cards with these fractions written on them:

$\frac{1}{3}$, $\frac{2}{3}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{4}{6}$, $\frac{5}{6}$, $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$, $\frac{1}{12}$, $\frac{2}{12}$, $\frac{4}{12}$, $\frac{5}{12}$, $\frac{7}{12}$, $\frac{8}{12}$, $\frac{10}{12}$, $\frac{11}{12}$

a paper bag
strips of paper 15 cm long
crayons

Put the fraction cards in the bag.
Take turns.

- Draw a card from the bag.
- Estimate whether the fraction is closer to 0, $\frac{1}{2}$, or 1.
- Fold and colour a paper strip to show the fraction.
- Line up your strip with this number line to check your estimate.



- You get a point if your estimate was right.
- Your partner gets a point if your estimate was wrong.
- Keep playing until one player has 10 points.

Stretch Your Thinking

1. Name a fraction between 0 and $\frac{1}{2}$ that is neither closer to 0 nor closer to $\frac{1}{2}$.

_____

2. Name a fraction that is between $\frac{1}{2}$ and 1 that is neither closer to $\frac{1}{2}$ nor closer to 1.

_____

UNIT 5

STUDENT BOOK 3 LESSON

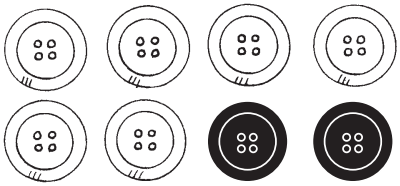
Exploring Fractions of a Set

Quick Review

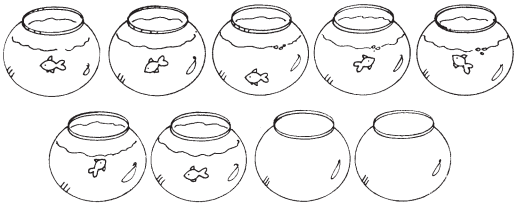
At Home At School

To find a fraction of a set, start by counting.

➤ There are 8 buttons.
6 of the 8 buttons are white.
$\frac{6}{8}$ of the buttons are white.
$\frac{2}{8}$ of the buttons are black.



➤ There are 9 fish bowls.
7 of the 9 fish bowls have a fish.
$\frac{7}{9}$ of the fish bowls have a fish.
$\frac{2}{9}$ of the fish bowls are empty.



Try These

1. What fraction of each set is shaded?

a) ○ ○ ○
○ ○ ○

_____

b) ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○

_____

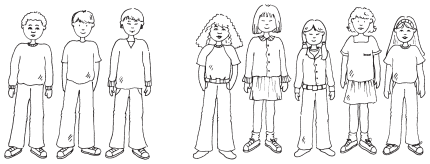
c) ○ ○ ○ ○
○ ○ ○ ○

_____

d) ○ ○ ○ ○

_____

2. Here are the children who signed up for the chess club.

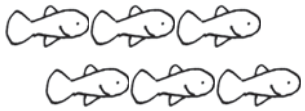


What fraction are boys? _____

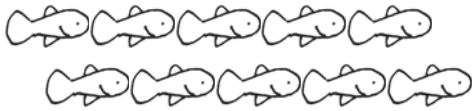
What fraction of the children are girls? _____

Practice

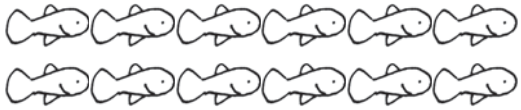
1. Colour some of the fish in each set.
Write to tell what fraction you coloured.

a) 

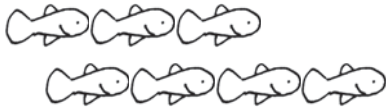
_____

b) 

_____

c) 

_____

d) 

_____

2. **a)** Marvin has 8 pets.
$\frac{2}{8}$ of the pets are cats.
$\frac{3}{8}$ of the pets are dogs.
The rest are hamsters.
Draw Marvin's pets.

b) Suppose Marvin gets 1 more cat.
What fraction of his pets will be cats?

_____

Stretch Your Thinking

Three of Sally's pencils are broken.
That's 1 quarter of Sally's pencils.
How many pencils does Sally have?
Use pictures, words, and numbers
to show your answer.

_____

UNIT 5

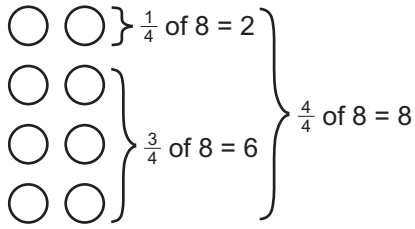
STUDENT BOOK 4 LESSON

Finding a Fraction of a Set

Quick Review

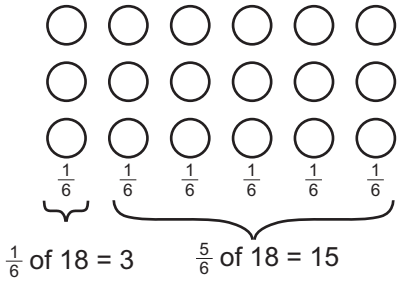
At Home / At School

You can use fractions to show equal parts of a set.



Here is a way to find $\frac{5}{6}$ of 18.

The denominator lets us know we are counting sixths. Divide 18 counters into 6 equal groups to show sixths.



Try These

Draw a picture to show the fraction of each set.

1. $\frac{1}{2}$ of 10 = _____	**2.** $\frac{2}{3}$ of 9 = _____
3. $\frac{4}{5}$ of 15 = _____	**4.** $\frac{1}{4}$ of 12 = _____

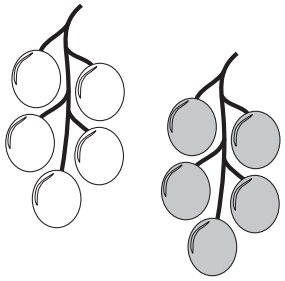
Practice

1. Write a fraction for the shaded part of each set.

a)

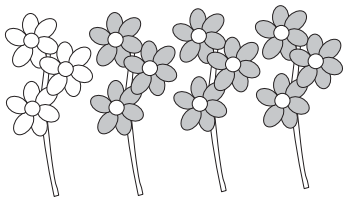
_____

b)



_____

c)



_____

2. Use counters to find the fraction of each set.

a) $\frac{1}{2}$ of 14 = _____ **b)** $\frac{2}{6}$ of 18 = _____ **c)** $\frac{3}{5}$ of 15 = _____

d) $\frac{3}{8}$ of 16 = _____ **e)** $\frac{3}{4}$ of 12 = _____ **f)** $\frac{6}{10}$ of 20 = _____

g) $\frac{7}{7}$ of 14 = _____ **h)** $\frac{7}{8}$ of 24 = _____ **i)** $\frac{2}{3}$ of 15 = _____

3. On Pet Day, 18 children brought a pet to school.
Two-thirds of the pets were dogs. One-ninth of the pets were cats.

a) How many dogs were there? _____

b) How many cats were there? _____

c) How many animals were neither dogs nor cats? _____

Stretch Your Thinking

1. Choose letters from the box.

a) Write a word that uses $\frac{1}{2}$ of the letters.

_____

b) Write a word that uses $\frac{3}{5}$ of the letters.

_____

A	I	T
M	U	L
		R
O	E	S

UNIT 5

STUDENT BOOK 5 LESSON

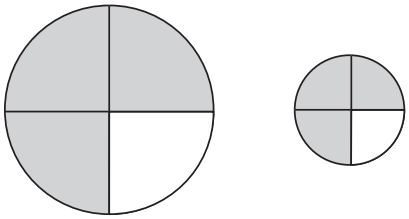
Relating Fractional Parts of Different Wholes and Sets

Quick Review

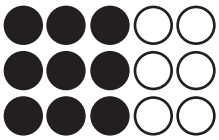
At Home At School

When 2 wholes have different sizes, the same fraction of the whole is different for each whole.

Three-quarters of the big circle is greater than $\frac{3}{4}$ of the small circle.

➤ 

➤ $\frac{3}{5}$ of 15 counters are greater than $\frac{3}{5}$ of 10 counters.



$\frac{3}{5}$ of 15 counters are 9 counters.

$\frac{3}{5}$ of 10 counters are 6 counters.

Try These

1. Draw a picture to show that:

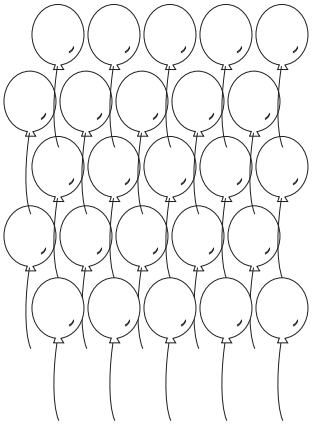
a) $\frac{1}{2}$ of one pizza is less than $\frac{1}{2}$ of another pizza.

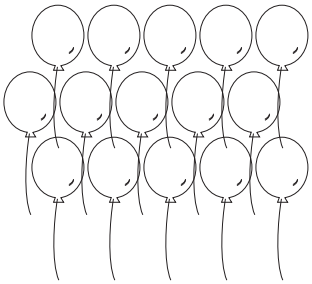
b) $\frac{5}{6}$ of one group of birds is greater than $\frac{5}{6}$ of another group of birds.

Practice

1. Colour each strip to show $\frac{1}{4}$.
Circle the strip that shows a shorter length to represent $\frac{1}{4}$.

2. Colour $\frac{4}{5}$ of each set of balloons.
Circle the set in which $\frac{4}{5}$ represents a greater amount.





3. Draw a picture to show that $\frac{2}{3}$ of one set of counters is greater than $\frac{2}{3}$ of another set of counters.

Stretch Your Thinking

Use 2 strips of paper of different lengths.
Fold and colour each strip to show $\frac{5}{8}$. Paste the strips below.
Circle the one in which $\frac{5}{8}$ represents a lesser amount.

UNIT 5

STUDENT BOOK 7 LESSON

Comparing and Ordering Unit Fractions

Quick Review

At Home At School

A fraction with a numerator of 1 is a **unit fraction**.
$\frac{1}{3}$, $\frac{1}{8}$, and $\frac{1}{1}$ are unit fractions.

➤ With different unit fractions, the equal parts of the whole have different sizes.

$\frac{1}{5}$ ← 5 equal parts in the whole

$\frac{1}{8}$ ← 8 equal parts in the whole

Fifths are greater than eighths.
So, $\frac{1}{5} > \frac{1}{8}$

➤ Order these unit fractions from greatest to least: $\frac{1}{7}$, $\frac{1}{10}$, $\frac{1}{2}$

$\frac{1}{2}$ is the greatest because halves are greater than sevenths and tenths.

$\frac{1}{10}$ is the least because tenths are smaller than sevenths.

From the greatest to least: $\frac{1}{2}$, $\frac{1}{7}$, $\frac{1}{10}$

Try These

1. Use > or < to compare each pair of fractions.

a) $\frac{1}{3}$ _____ $\frac{1}{6}$ **b)** $\frac{1}{9}$ _____ $\frac{1}{4}$ **c)** $\frac{1}{5}$ _____ $\frac{1}{2}$

2. Order these fractions from least to greatest.

a) $\frac{1}{6}$, $\frac{1}{3}$, $\frac{1}{8}$ _____ **b)** $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{5}$ _____

c) $\frac{1}{7}$, $\frac{1}{12}$, $\frac{1}{10}$ _____ **d)** $\frac{1}{9}$, $\frac{1}{3}$, $\frac{1}{7}$ _____

Practice

1. Work with a partner.

You will need crayons and four strips of paper of the same length for each person.

- ➤ Each of you folds a strip into any number of equal parts. Colour one of the parts to show a unit fraction.
- ➤ Show your strip to your partner and name the fraction.
- ➤ Compare the fractions by lining the strips up one below the other.
- ➤ On the lines below, record a fraction sentence using >, <, or =.
- ➤ Repeat with three more pairs of strips.

a) _____ **b)** _____

c) _____ **d)** _____

2. Order these numbers from least to greatest.

a) $\frac{1}{8}, \frac{1}{14}, \frac{1}{3}$ _____ **b)** $\frac{1}{10}, \frac{1}{4}, \frac{1}{6}$ _____

c) $\frac{1}{3}, \frac{1}{4}, \frac{1}{2}$ _____ **d)** $\frac{1}{6}, \frac{1}{7}, \frac{1}{4}$ _____

3. Stivi and Zach each ordered a medium pizza.
Stivi ate $\frac{1}{3}$ of the pizza and Zach ate $\frac{1}{4}$ of his pizza.
Who ate more? Explain.

_____

Stretch Your Thinking

1. Write a unit fraction to make each statement true.

a) $\frac{1}{9} >$ ____ **b)** $\frac{1}{3} <$ ____ **c)** ____ $> \frac{1}{8}$ **d)** $\frac{1}{7} >$ ____

e) ____ $< \frac{1}{5}$ **f)** ____ $> \frac{1}{9}$ **g)** $\frac{1}{10} <$ ____ **h)** ____ $> \frac{1}{4}$

UNIT 5

STUDENT BOOK 8 LESSON

Comparing and Ordering Fractions with the Same Numerator or Denominator

Quick Review

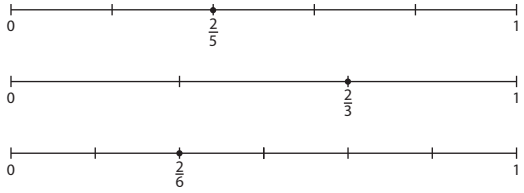
At Home At School

➤ Here is one way to order $\frac{2}{5}$, $\frac{4}{5}$, and $\frac{1}{5}$ from greatest to least.
The fractions have the same denominator, so the parts being counted have the same size.
$\frac{4}{5}$ has the most parts, so it is the greatest.
$\frac{1}{5}$ has the fewest parts, so it is the least.

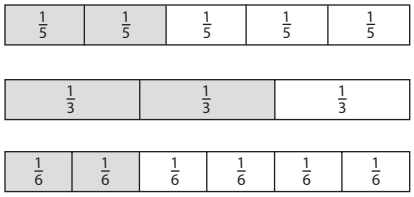
From greatest to least: $\frac{4}{5}, \frac{2}{5}, \frac{1}{5}$

➤ Here are two ways to order $\frac{2}{5}$, $\frac{2}{3}$, and $\frac{2}{6}$ from least to greatest.
The fractions have the same numerator but different denominators, so the parts being counted have different sizes.

- Use number lines.



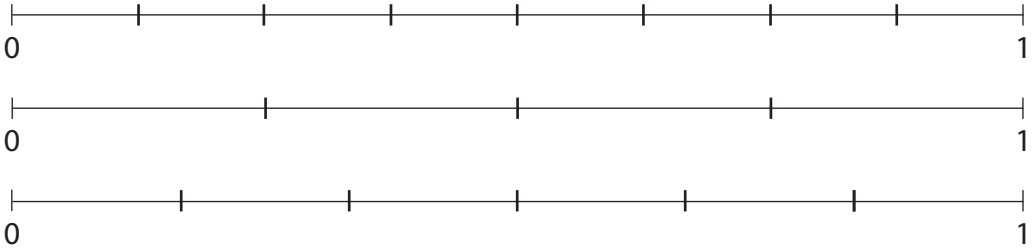
- Use strips.



From least to greatest: $\frac{2}{6}, \frac{2}{5}, \frac{2}{3}$

Try These

1. Use the number lines to order $\frac{3}{8}$, $\frac{3}{4}$, and $\frac{3}{6}$.



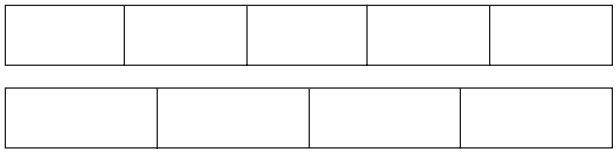
From greatest to least: _____

Practice

1. Colour the strips to show the fractions.

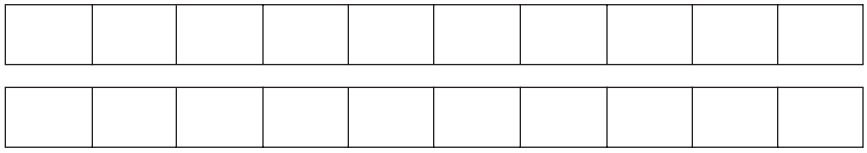
Use > or < to compare the fractions.

a)



$\frac{3}{5}$ ___ $\frac{3}{4}$

b)

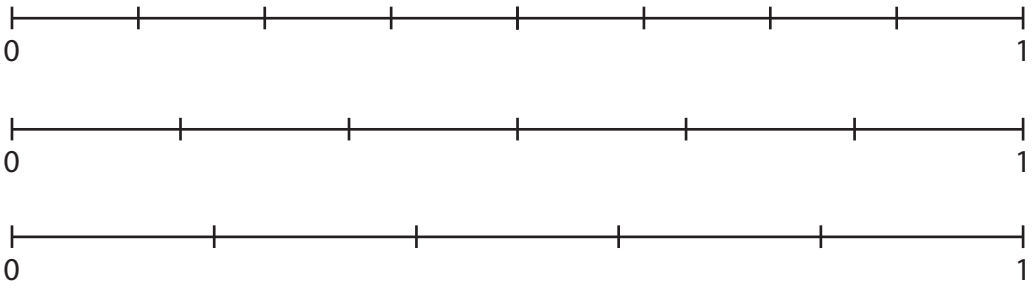


$\frac{4}{10}$ ___ $\frac{3}{10}$

2. Estimate to place $\frac{2}{8}$ and $\frac{2}{4}$ on the number line.

Which fraction is greater? _____

3. Use the 3 number lines to order $\frac{4}{8}, \frac{4}{6}, \frac{4}{5}$.



From least to greatest: _____

Stretch Your Thinking

Fold and colour paper strips to show each pair of fractions.
Use < or > to compare the fractions.

a) $\frac{4}{8}$ ___ $\frac{4}{6}$ **b)** $\frac{3}{5}$ ___ $\frac{3}{4}$ **c)** $\frac{2}{3}$ ___ $\frac{2}{5}$

UNIT 5

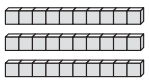
STUDENT BOOK 9 LESSON

Exploring Tenths

Quick Review

At Home At School

➤ You can use Base Ten Blocks to model $\frac{3}{10}$.



➤ You can write the fraction as a **decimal** using a symbol, the **decimal point**.

$\frac{3}{10}$ is the same as 0.3. We say 0.3 as "zero and three-tenths."

This is the decimal point.

Since $\frac{3}{10}$, or 0.3, is less than 1 whole, we write 0 before the decimal point to show there is no whole number part.

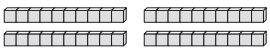
➤ You can also use a place-value chart to show a decimal.

Ones	Tenths
0	3

The decimal point is between the ones place and the tenths place.

Try These

1. Write a fraction and a decimal for each group of Base Ten Blocks shown.

a) 

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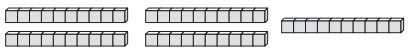
b) 

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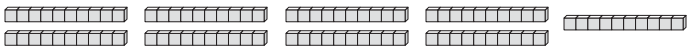
c) 

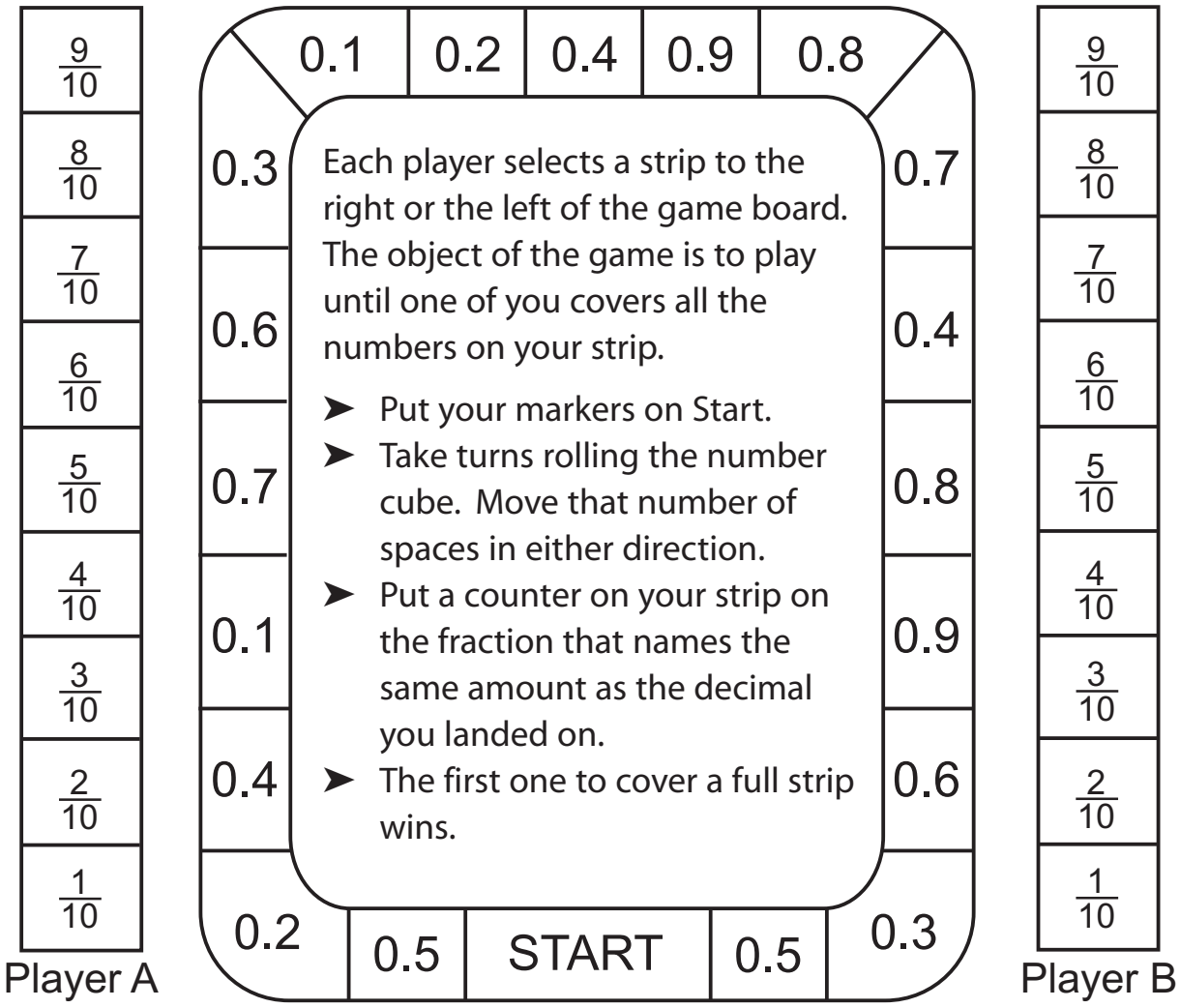
_____

2. Write each fraction as a decimal.

a) $\frac{7}{10}$ _____ **b)** $\frac{2}{10}$ _____ **c)** $\frac{8}{10}$ _____

Practice

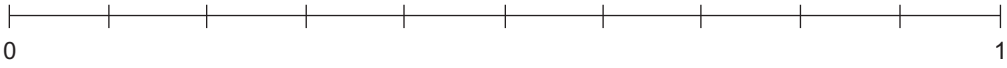
1. Play this game with a partner.
You will need:
24 small counters 1 number cube 2 game markers



Stretch Your Thinking

Place each decimal on the number line.

0.4 0.7 0.1 0.9 0.2



UNIT 5

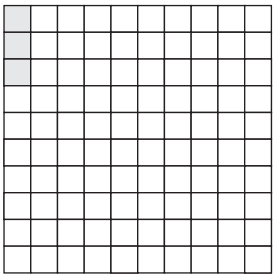
STUDENT BOOK 10 LESSON

Exploring Hundredths

Quick Review

At Home At School

➤ This grid is divided into 100 equal squares.
Each square is one-hundredth of the grid.
Three-hundredths of the grid are shaded.
We can write this as $\frac{3}{100}$ or 0.03.



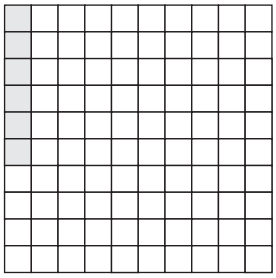
➤ We can use decimals to write parts of one dollar.
1 dollar = 100 cents
So, 1 cent = $\frac{1}{100}$ dollar, or 0.01 dollar.

Here are 23 cents.
23 cents = $\frac{23}{100}$ dollar
We write this as 23¢ or $0.23.

Try These

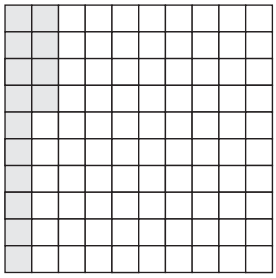
1. Write a fraction and a decimal for the shaded part of each picture.

a)



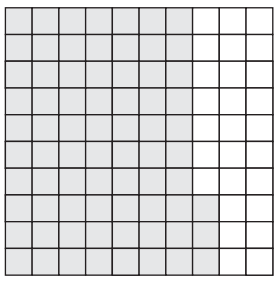
_____

b)



_____

c)



_____

2. Write each fraction as a decimal.

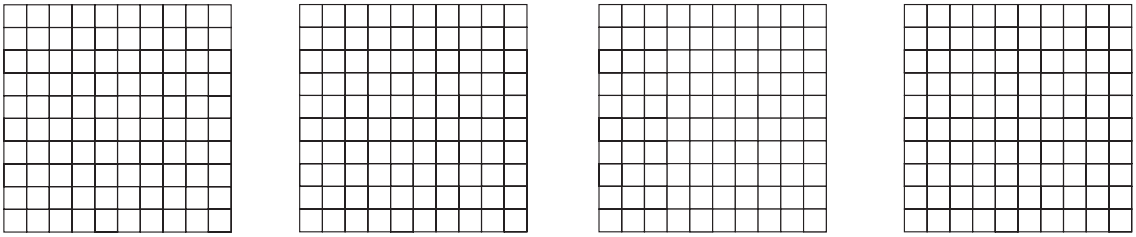
a) $\frac{48}{100}$ _____ **b)** $\frac{7}{100}$ _____ **c)** $\frac{6}{100}$ _____

d) $\frac{17}{100}$ _____ **e)** $\frac{67}{100}$ _____ **f)** $\frac{5}{100}$ _____

Practice

1. Colour the grids to show the numbers.

a) 0.09 **b)** 0.43 **c)** 0.02 **d)** $\frac{70}{100}$



2. Write each decimal as a fraction.

a) 0.24 _____ **b)** 0.93 _____ **c)** 0.80 _____

d) 0.27 _____ **e)** 0.01 _____ **f)** 0.4 _____

3. Draw pictures of dimes and pennies to show each amount.

$0.33	$0.19

4. Write each amount as a decimal.

a) 84¢ _____ **b)** 7 cents _____ **c)** 15¢ _____

Stretch Your Thinking

Carlos said that 0.30 is greater than 0.3 because 30 is greater than 3. Is he correct? Use pictures to support your answer.

_____

_____

_____

_____

UNIT 5

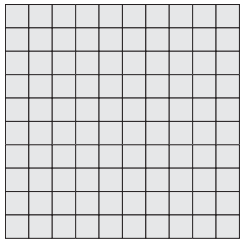
STUDENT BOOK 11 LESSON

Equivalent Decimals

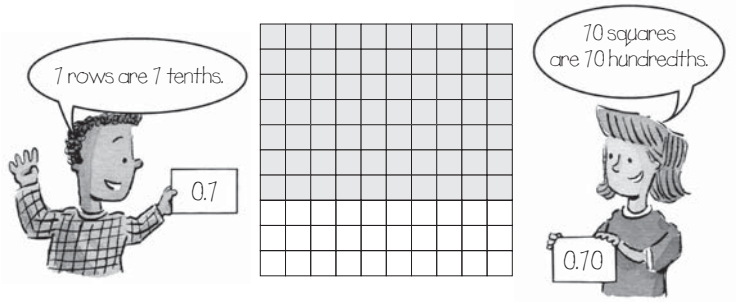
Quick Review

At Home / At School

One row of this hundredths grid is one-tenth of the grid.
Each small square is one-hundredth of the grid.



= 1

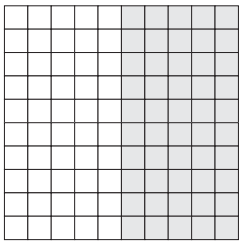


Both 0.7 and 0.70 name the shaded part of the grid.
So, 0.7 = 0.70
Decimals that name the same amount are called **equivalent decimals**.

Try These

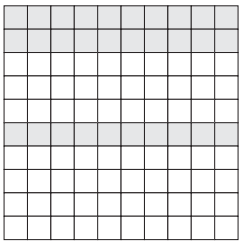
1. Write two equivalent decimals that name each shaded part.

a)



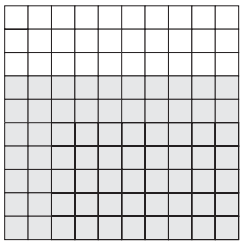
_____ _____

b)



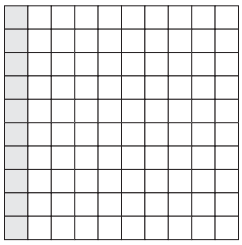
_____ _____

c)



_____ _____

d)



_____ _____

2. Write an equivalent decimal for each number.

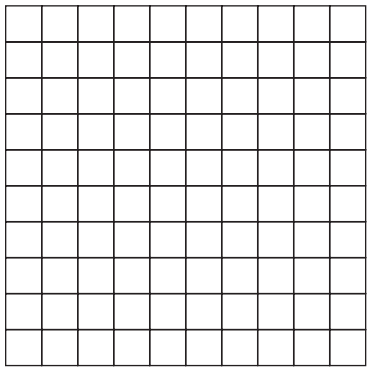
a) 0.6 _____ **b)** 0.70 _____ **c)** 0.90 _____ **d)** 0.5 _____

e) 0.80 _____ **f)** 0.1 _____ **g)** 0.30 _____ **h)** 0.60 _____

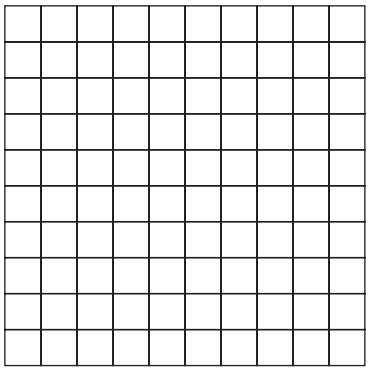
i) 0.40 _____ **j)** 0.2 _____ **k)** 0.50 _____ **l)** 0.10 _____

Practice

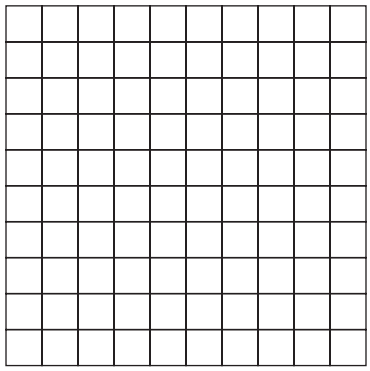
1. Colour the grid to show each decimal.
Write an equivalent decimal.



a) 0.3 _____



b) 0.80 _____



c) 0.6 _____

2. Play this game with a partner.
You will need:
9 pairs of cards with 2 equivalent decimals (0.1 and 0.10 to 0.9 and 0.90).

- ➤ Shuffle the cards and turn them face down on a table in 3 rows of 6.
- ➤ Take turns to turn over 2 cards.
  If the cards name equivalent decimals, keep the cards and play again.
  If the cards do not name equivalent decimals, turn them face down again.
- ➤ Play until there are no cards left on the table.
- ➤ The player with the most cards wins.

Stretch Your Thinking

Gabriel is making a design on a hundredths grid.
He says he will colour 0.6 of the grid red, and 0.6 black.
Will Gabriel's plan work? Explain.

_____

_____

_____

UNIT 5

STUDENT BOOK 12 LESSON

Adding Decimals to Tenths

Quick Review

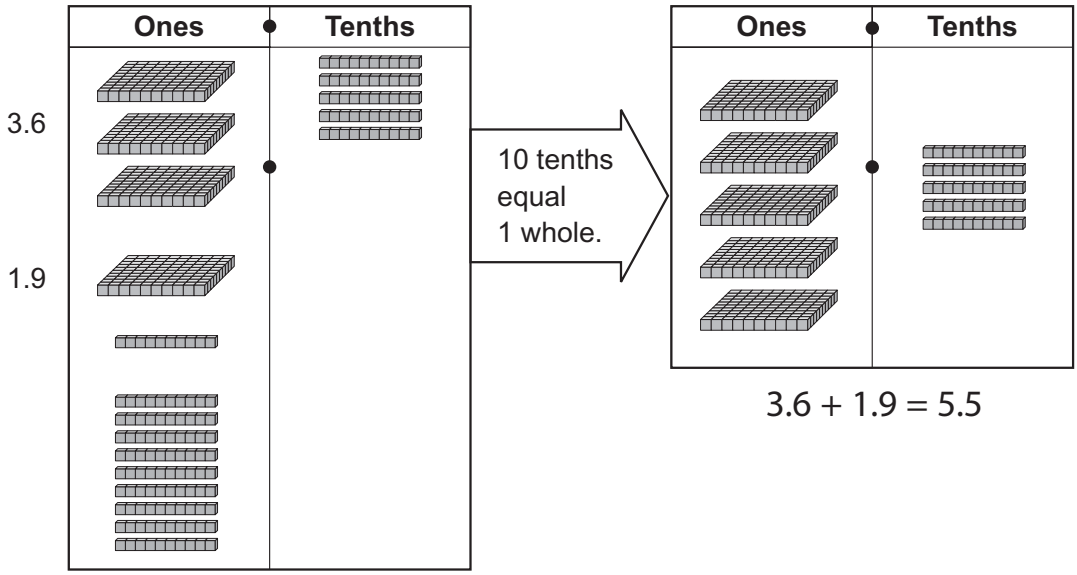
At Home At School

You can use whole number strategies to add decimals.

3.6 is close to 4.
1.9 is close to 2.
4 + 2 = 6
So 3.6 + 1.9 is about 6.

➤ To estimate 3.6 + 1.9, find a whole number close to each decimal.

➤ Use Base Ten Blocks to add.



3.6 + 1.9 = 5.5

➤ Use place value to add.

Add the tenths: 15 tenths	10 tenths equal 1 whole. That's 1 and 5 tenths.	Add the ones.
3.**6** + 1.**9**	$\overset{1}{}$ 3.6 + 1.9 **.5**	$\overset{1}{}$ **3**.6 + **1**.9 **5**.5

Try These

Estimate each sum.

1. **a)** 2.8 + 3.4 _____ **b)** 5.9 + 2.8 _____ **c)** 4.3 + 5.2 _____

2. Add. Use Base Ten Blocks to help you.

a) 3.2 + 4.5 = _____ **b)** 6.6 + 2.4 = _____ **c)** 3.5 + 8.7 = _____

Practice

1. Add. Use Base Ten Blocks or pictures of the blocks to help you.

a) 1.7 + 4.9 = _____ **b)** 6.5 + 2.7 = _____ **c)** 3.9 + 8.6 = _____

d) 3.8 + 2.7 = _____ **e)** 2.4 + 6.3 = _____ **f)** 4.1 + 6.4 = _____

2. Use place value to find each sum.

a) 4.2 + 2.3	**b)** 1.7 + 5.6	**c)** 7.3 + 2.8	**d)** 2.3 + 1.6	**e)** 6.4 + 9.7
f) 7.4 + 8.6	**g)** 3.7 + 1.9	**h)** 8.2 + 3.8	**i)** 5.7 + 6.7	**j)** 3.2 + 9.8

3. Kruti jogged 2.8 km on Saturday and 1.9 km on Sunday.
How far did she jog altogether?

_____

4. Alexander grew two pumpkins in his garden.
One had a mass of 4.7 kg.
The other had a mass of 3.6 kg.
What was the total mass of both pumpkins?

_____

5. Sally had 3.4 L of orange juice and 2.7 L of grape juice.
How much juice did she have altogether?

_____

Stretch Your Thinking

1. **a)** Write two decimals whose sum is approximately 5.

_____

b) Write two decimals whose sum is closer to 1 than 2.

_____

UNIT 5

STUDENT BOOK 13 LESSON

Subtracting Decimals to Tenths

Quick Review

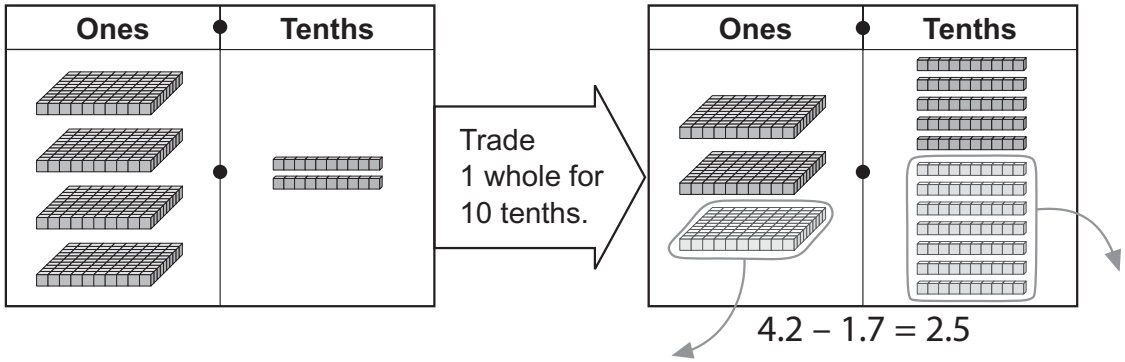
At Home At School

You can use whole number strategies to subtract decimals.

➤ To estimate 4.2 – 1.7, find a whole number close to each decimal.

4.2 is close to 4.
1.7 is close to 2.
4 – 2 = 2
So 4.2 – 1.7 is about 2.

➤ Use Base Ten Blocks to subtract.



➤ Use place value to subtract. Try to subtract the tenths.

You cannot take 7 tenths from 2 tenths.	Trade 1 whole for 10 tenths.	Subtract the tenths.	Subtract the ones.
4.**2** – 1.**7**	**3 12** ~~4.2~~ – 1.7	3 **12** ~~4.2~~ – 1.**7** **.5**	**3** 12 ~~4.2~~ – **1**.7 **2**.5

Try These

1. Estimate each difference.

a) 5.8 – 2.9 _____ **b)** 8.1 – 3.2 _____ **c)** 2.1 – 0.9 _____

2. Subtract.

a) 8.4 – 3.2 = _____ **b)** 7.9 – 4.2 = _____ **c)** 6.4 – 2.5 = _____

Practice

1. Subtract. Use Base Ten Blocks or pictures of the blocks to help you.

a) 7.4 – 2.3 = _____ **b)** 2.7 – 0.8 = _____ **c)** 4.2 – 3.8 = _____

d) 4.9 – 2.6 = _____ **e)** 5.2 – 3.7 = _____ **f)** 0.9 – 0.2 = _____

g) 4.8 – 3.7 = _____ **h)** 6.4 – 5.8 = _____ **i)** 3.6 – 0.7 = _____

2. Use place value to find each difference.

a) 9.3 − 6.4	**b)** 10.2 − 3.6	**c)** 14.8 − 6.9	**d)** 8.5 − 0.7	**e)** 6.4 − 2.8
f) 8.4 − 0.9	**g)** 3.8 − 1.2	**h)** 7.5 − 2.8	**i)** 12.6 − 9.9	**j)** 10.4 − 3.7

3. When Baily planted a new evergreen tree, the tree was 1.3 m tall.
Now it is 2.1 m tall.

How much has the tree grown? _____

4. Symron lives 2.4 km from the movie theatre.
Sofia lives 3.1 km from the theatre.

How much farther away does Sofia live? _____

5. Stephanie had 1.8 L of water.
After she drank some water, she had 1.3 L of water left.

How much water did she drink? _____

Stretch Your Thinking

1. **a)** Name two decimals whose difference is approximately 2.

_____

b) Name two decimals whose difference is between 2 and 3, but closer to 3.

_____

UNIT 5

STUDENT BOOK 14 LESSON

Adding and Subtracting Decimals to Hundredths

Quick Review

At Home At School

You can use different methods to add and subtract decimals to hundredths.

- ➤ You can use a place-value mat.
- ➤ You can count on.
- ➤ You can use place value.

What is the change from $5 when you spend $3.52?
Use place value and subtraction to find out.

Line up the decimal points.	Trade $1 for 10 dimes. Trade 1 dime for 10 pennies.	Subtract the cents.	Subtract the dollars.
$5.00 – 3.52	**9** **4**~~1~~**10** ~~$5.00~~ – 3.52	4 **9 10** ~~$5.00~~ – 3.**52** **.48**	**4** 9 10 ~~$5.00~~ – **3**.52 **$1.**48

The change from $5 is $1.48.

Try These

1. Add or subtract.

a) $2.49 + 1.30

b) $4.26 + 3.49

c) $9.32 – 4.50

d) $7.27 – 4.88

2. Find each sum or difference.

a) $5.39 + $2.20 = _____

b) $1.49 + $7.37 = _____

c) $14.55 – $8.32 = _____

d) $10.00 – $8.23 = _____

Practice

1. Find each sum.

a) $\$6.70 + 2.85$ **b)** $\$2.57 + 5.84$ **c)** $\$6.85 + 1.78$ **d)** $\$1.99 + 0.67$

2. Find each difference.

a) $\$6.74 - 2.54$ **b)** $\$5.75 - 2.83$ **c)** $\$7.00 - 2.51$ **d)** $\$3.49 - 0.58$

3. Use the prices in the table to solve the problems.

Beach Supplies

Sun Hat	$5.79
Sunglasses	$8.95
Beach Towel	$9.85
Beach Ball	$1.59
Flippers	$4.67
Sun Umbrella	$12.84

a) Yvonne bought a sun hat and beach towel.
How much did she spend?

_____

b) How much change did Yvonne get from $20? _____

c) Sandy bought two items. She spent $13.62.
Which two items did she buy?

_____

d) How much more does a sun umbrella cost than a beach towel? _____

e) How much do a beach ball and a sun umbrella cost altogether? _____

Stretch Your Thinking

Malio bought two items listed on the Beach Supplies table.
He got $2.62 change from $10.

Which two items did he buy? _____

_____

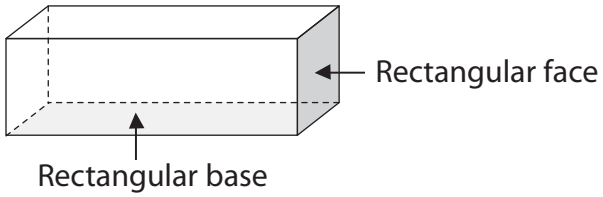
UNIT 6

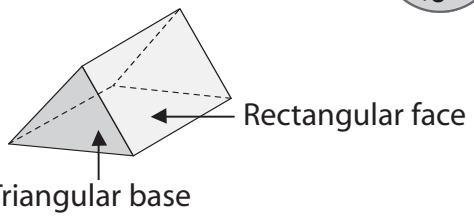
STUDENT BOOK 1 LESSON

Objects in Our World

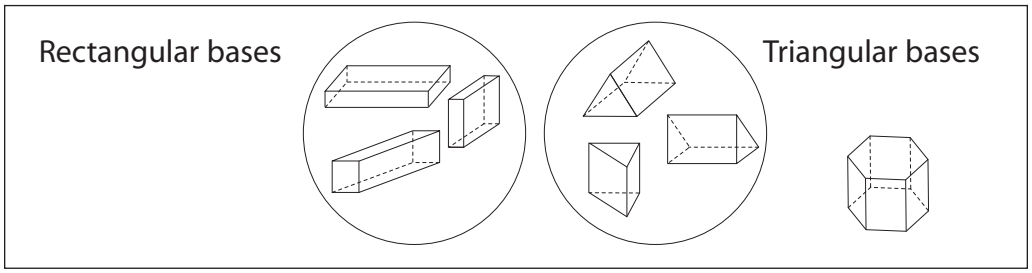
Quick Review

At Home At School

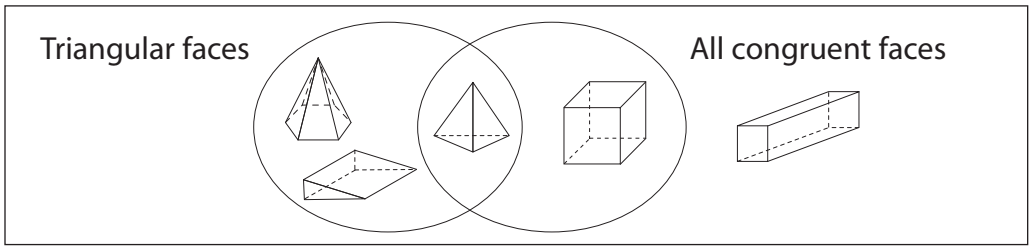




➤ You can sort objects by the shapes of the bases.

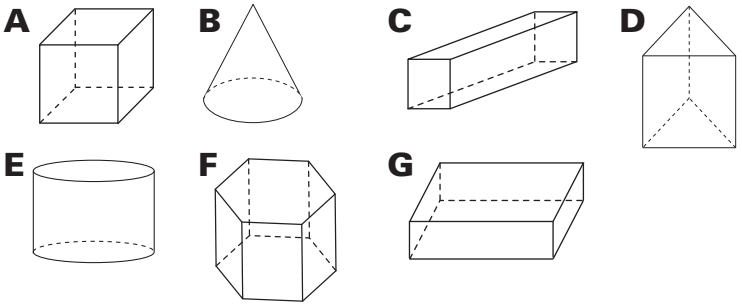


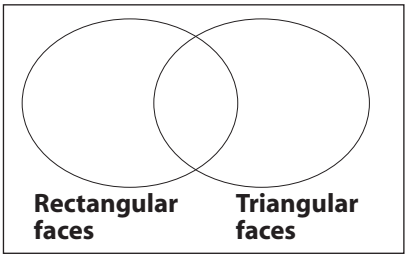
➤ You can sort objects by the shapes of the faces.



Try These

1. Sort these objects. Use the letters to record your sorting.





Practice

1. Write the name of a prism to answer each riddle.

a) I have 6 congruent faces. _____

b) I have 3 rectangular faces and 2 triangular faces. _____

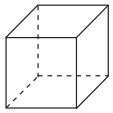
c) I have 2 square bases and 4 square faces. _____

2. Look through old magazines or catalogues for 3 small pictures of objects that look like prisms. Cut them out and paste them here.
Name the prism each object resembles.

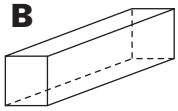
_____ _____ _____

3. Sort these objects. Use these attributes:
"Has square bases" and "Has all congruent faces"
Record your sorting.

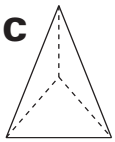
A



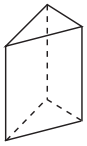
B



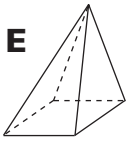
C

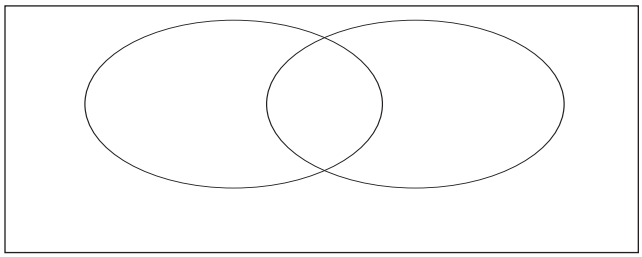


D



E





Stretch Your Thinking

Complete each sentence.

a) All triangular prisms have _____

b) All cubes have _____

c) No rectangular prisms have _____

UNIT 6

STUDENT BOOK 2 LESSON

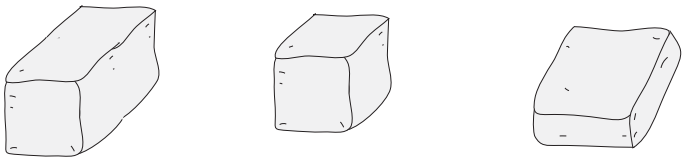
Constructing Prisms

Quick Review

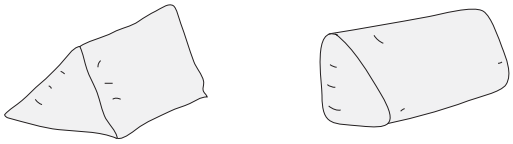
At Home At School

You can use modelling clay to build prisms.

➤ Rectangular prisms



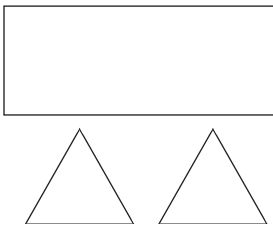
➤ Triangular prisms



Try These

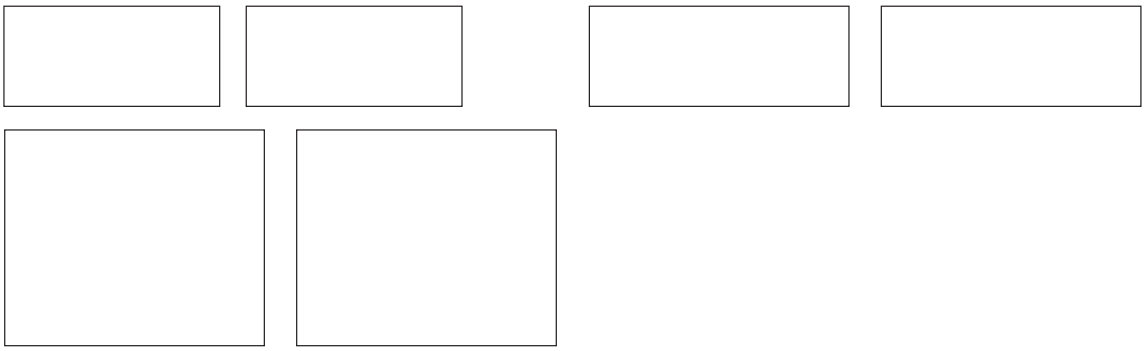
1. Use modelling clay. Make a prism with each set of faces. Identify each prism.

a)



_____

b)

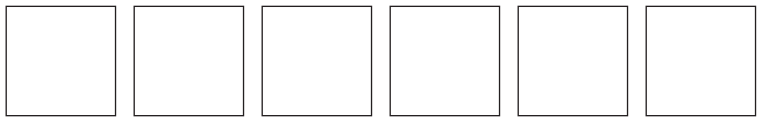


_____

Practice

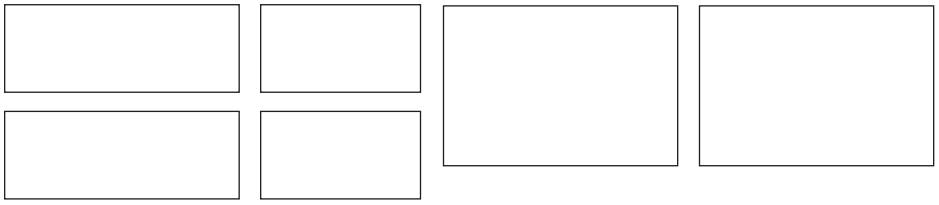
1. Identify the object that has each set of faces.

a)



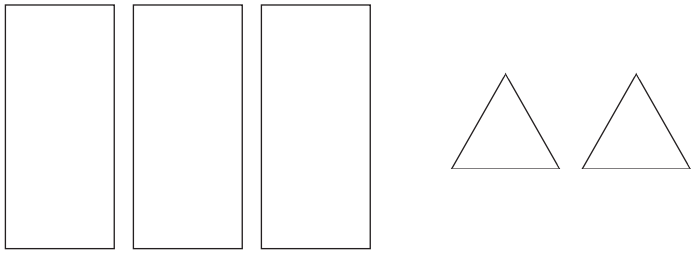
_____

b)



_____

c)



_____

2. Use modelling clay. Make a prism for each description.
Identify the prism.

a) It has 2 congruent triangle faces and 3 congruent rectangle faces.

_____

b) It has 2 congruent square faces and 4 congruent rectangle faces.

_____

c) It has 3 pairs of congruent rectangle faces.

_____

Stretch Your Thinking

Make a prism with modelling clay.
Describe the prism in as many ways as you can.

_____

_____

UNIT 6

STUDENT BOOK 3 LESSON

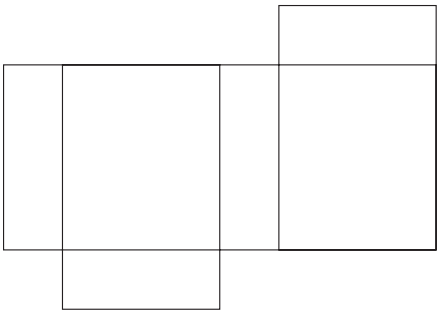
Exploring Nets

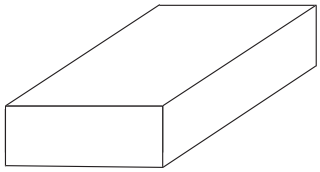
At Home At School

Quick Review

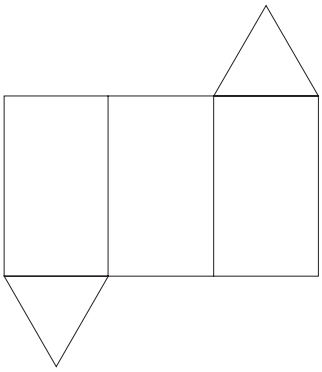
A pattern that can be folded to form an object is called a **net**.

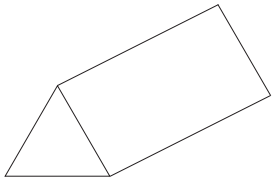
➤ A rectangular prism can be made from a net.





➤ A triangular prism can also be made from a net.

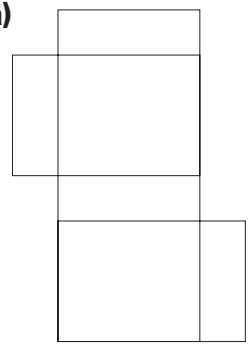




Try These

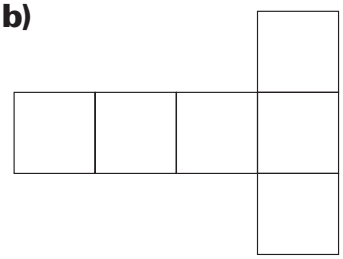
1. Name the prism you could make with each net.

a)



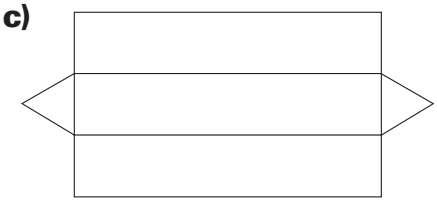
_____

b)



_____

c)

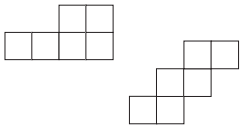


_____

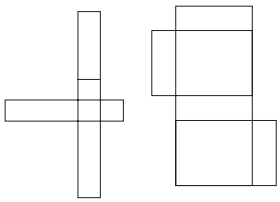
Practice

1. Circle the picture that shows a net for the prism named.

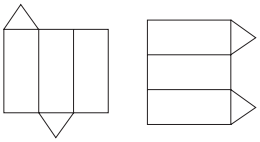
a) cube



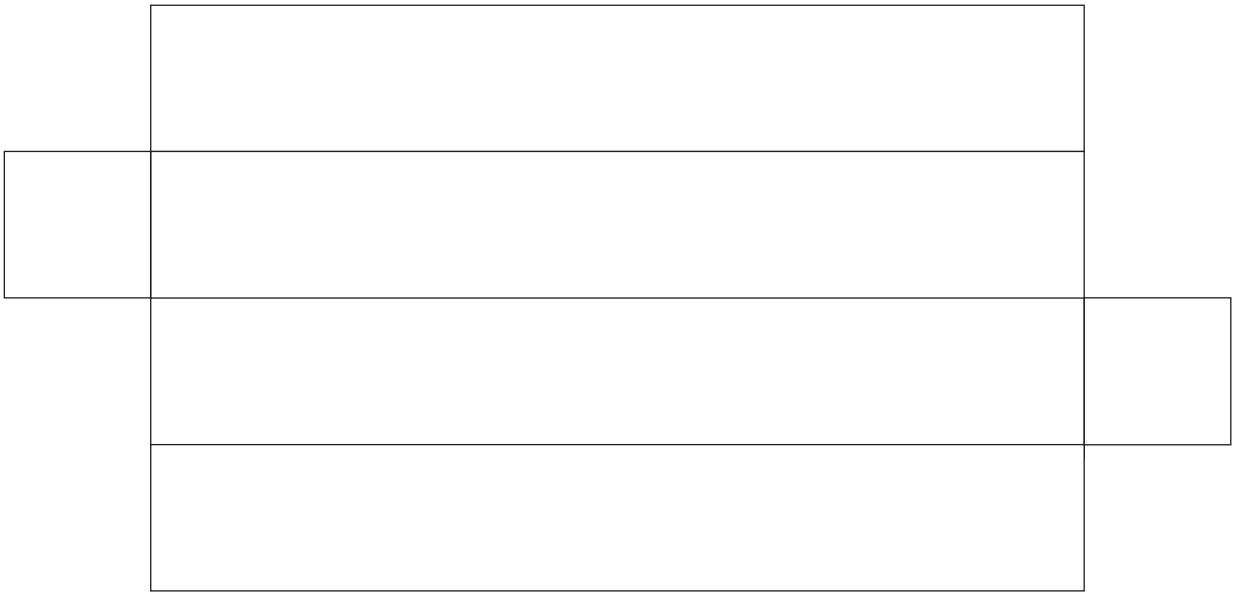
b) rectangular prism



c) triangular prism

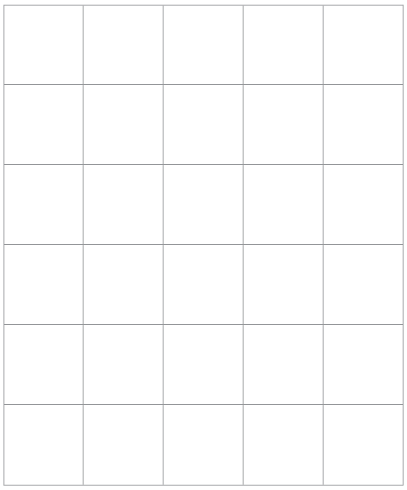


2. Trace this net on paper, then cut it out.
Decorate the net to look like a package for a product.
Then fold and tape your package.



Stretch Your Thinking

Draw a net for a cube on the grid paper.
Write the letters T and B on 2 faces of the net so that when the net is folded, the T will be on the top and the B on the bottom.



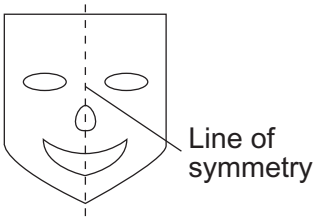
UNIT 6

STUDENT BOOK 5 LESSON

Symmetrical Shapes

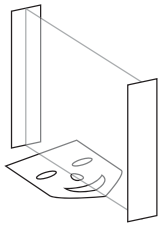
Quick Review

A **line of symmetry** divides a shape into 2 congruent parts.

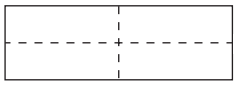


You can use a Mira to check a line of symmetry.

You can fold along the line and the 2 parts match.

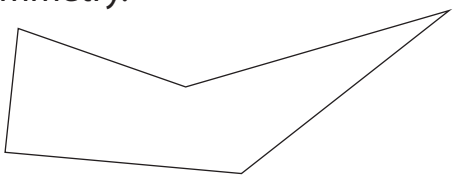


Some shapes have more than 1 line of symmetry.



A rectangle has 2 lines of symmetry.

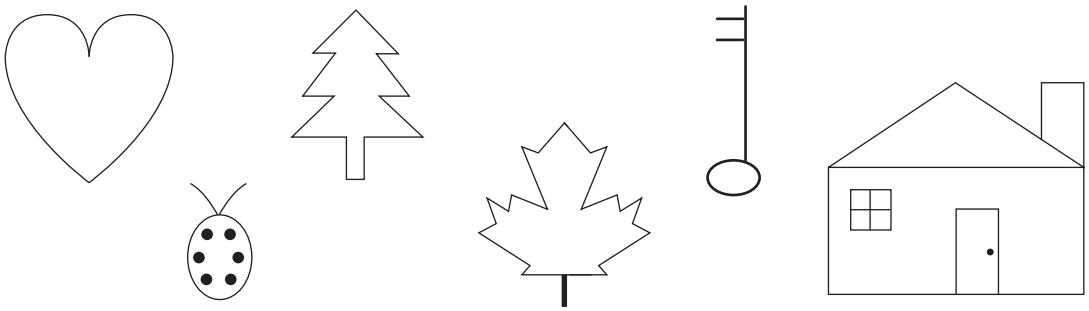
Some shapes have no line of symmetry.



This shape is non-symmetrical.

Try These

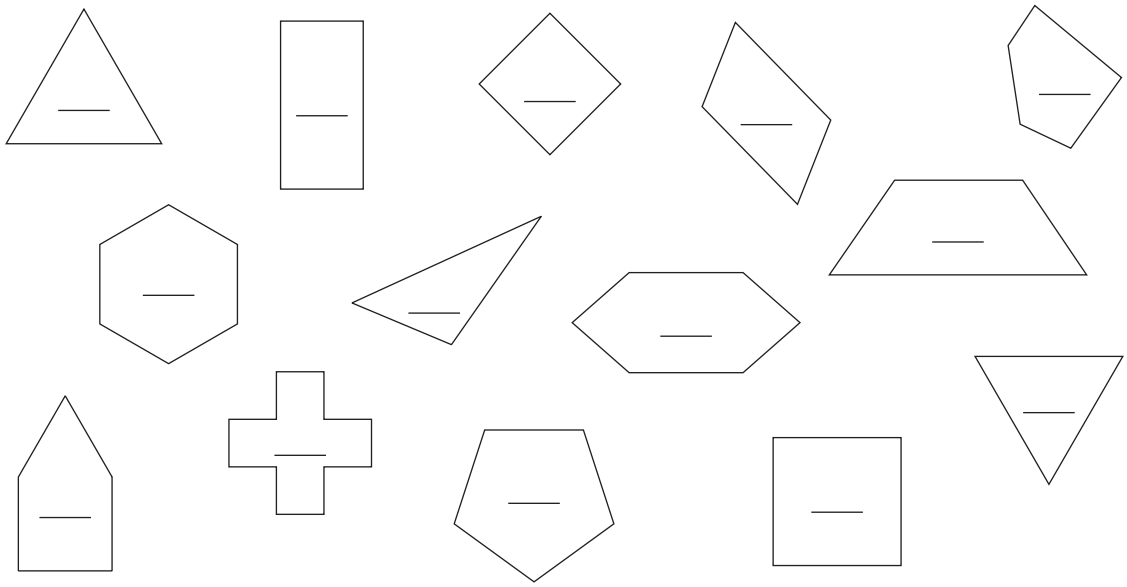
1. Colour the pictures that have 1 or more lines of symmetry.



Practice

1. Label the shapes below as follows:

A – no lines of symmetry
B – 1 line of symmetry
C – 2 lines of symmetry
D – more than 2 lines of symmetry



2. Look at these numbers.

0 1 2 3 4 5 6 7 8 9

a) Which numbers have no lines of symmetry? _____

b) Which numbers have 1 line of symmetry? _____

c) Which numbers have more than 1 line of symmetry? _____

Stretch Your Thinking

1. Does a circle have more than 1 line of symmetry? Explain.

_____

_____

UNIT 6

STUDENT BOOK 6 LESSON

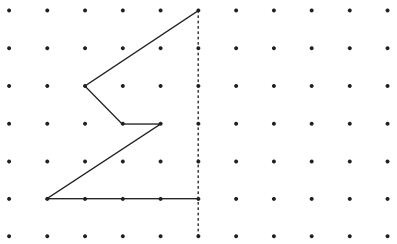
Line Symmetry

Quick Review

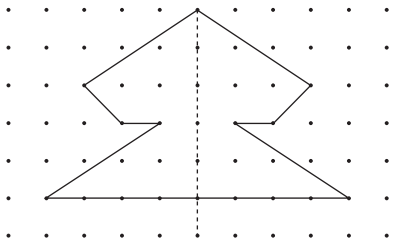
At Home At School

A symmetrical shape has one or more lines of symmetry.
Here is one way to make a symmetrical shape.

➤ Draw a line of symmetry on dot paper.
Draw one-half of a shape on one side of the line.



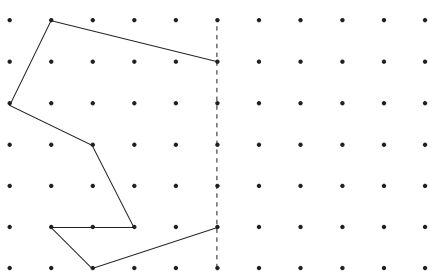
➤ Draw the other half of the shape on the other side of the line.



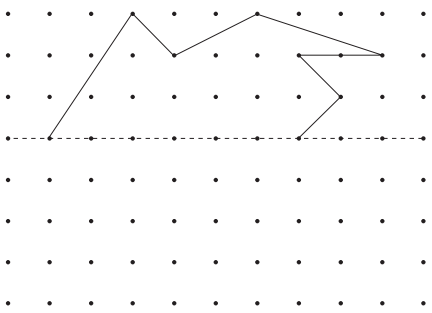
Try These

1. One-half of a symmetrical shape is shown.
Complete the shape.

a)

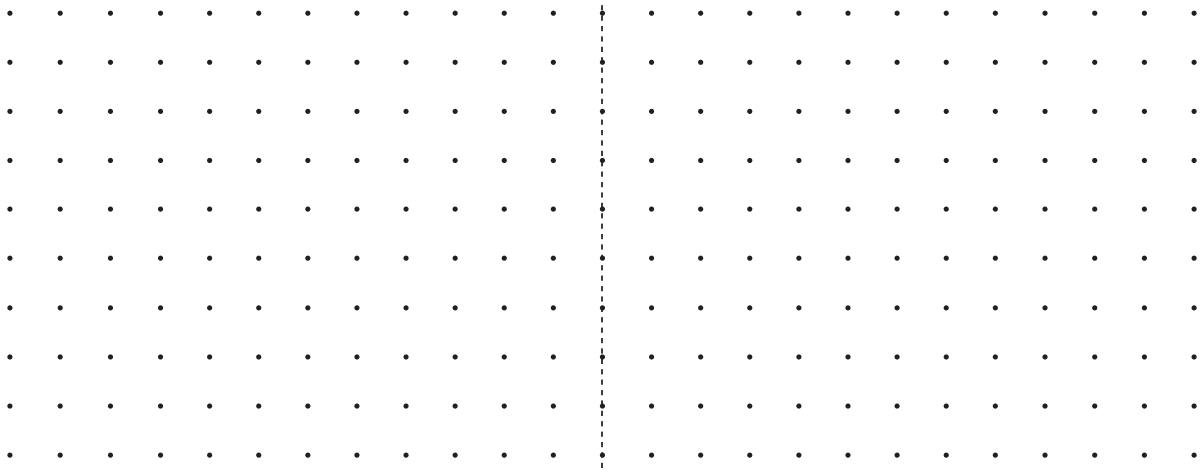


b)



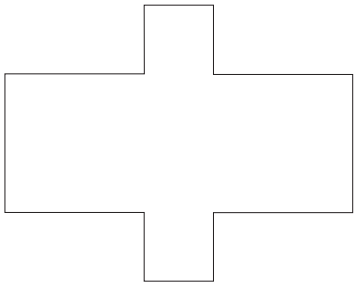
Practice

1. Work with a partner.
One person draws one-half of a symmetrical shape on one side of the line.
The other person completes the shape.

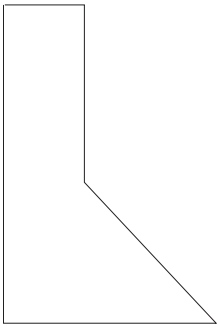


2. Find the shapes that are symmetrical.
Draw the lines of symmetry.

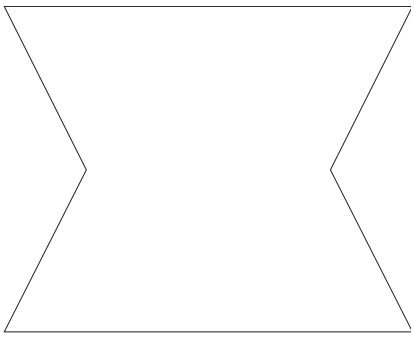
a)



b)

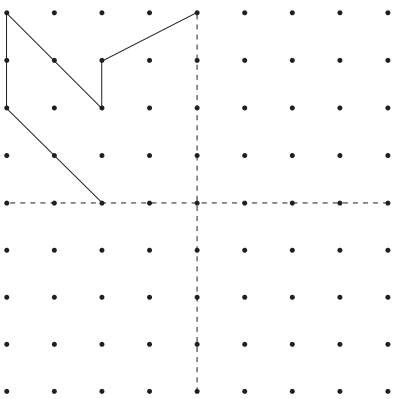


c)



Stretch Your Thinking

One-quarter of a symmetrical shape is shown.
Complete the shape.



UNIT 6

STUDENT BOOK 7 LESSON

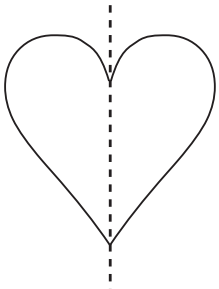
Sorting by Lines of Symmetry

Quick Review

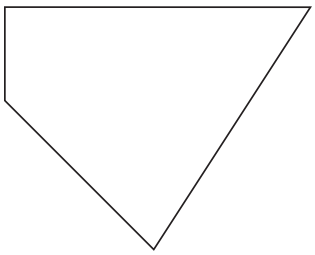
At Home At School

A line of symmetry divides a shape into two parts that are congruent.

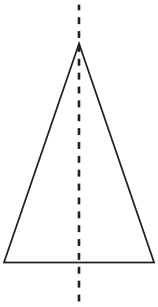
When a line of symmetry can be drawn on a shape, it has symmetry.



Some shapes have no lines of symmetry.

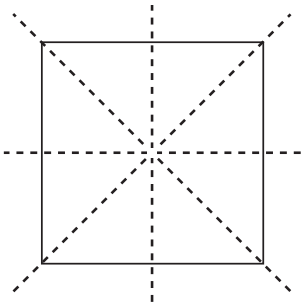


0 lines of symmetry



1 line of symmetry

Some shapes have more than one line of symmetry.

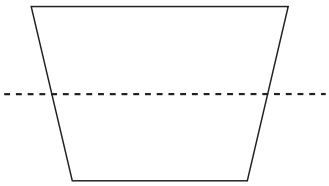


4 lines of symmetry

Try These

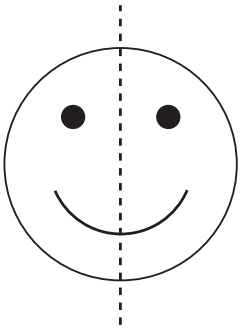
1. Is each broken line a line of symmetry? Write *Yes* or *No*.

a)



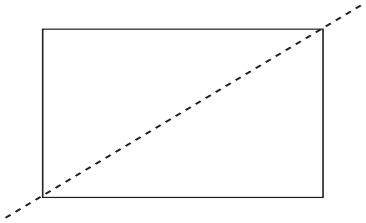
_____

b)



_____

c)

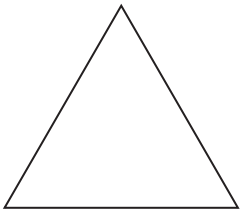


_____

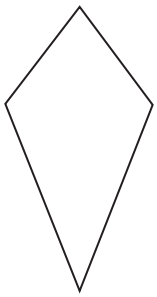
Practice

1. Draw as many lines of symmetry on each shape as you can.

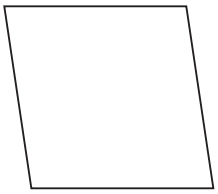
a)



b)

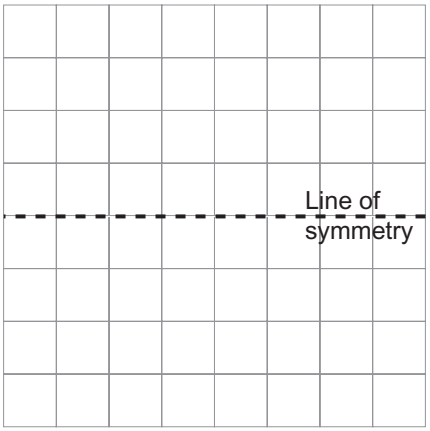


c)

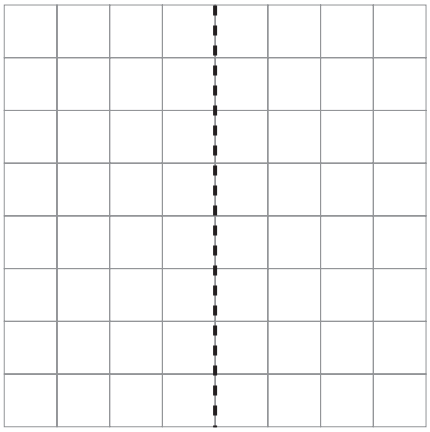


2. Work with a partner.
Each of you draw one-half of a design on one side of the line of symmetry on your grid. Switch places and complete your partner's design.

Your Grid

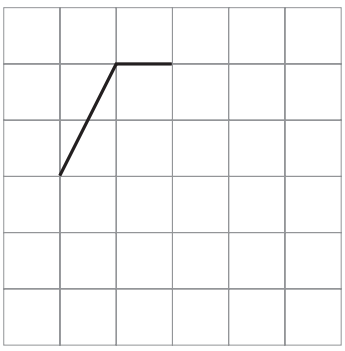


Your Partner's Grid



Stretch Your Thinking

Complete the shape to make it symmetrical.



UNIT 7

STUDENT BOOK 1 LESSON

Reading Pictographs and Bar Graphs

Quick Review

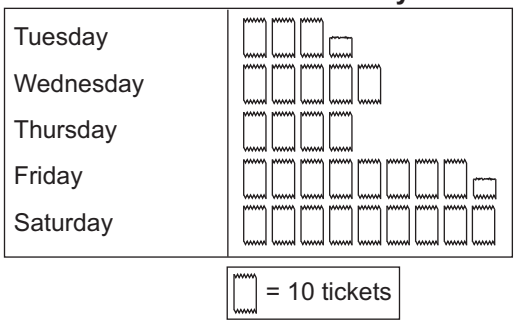
At Home / At School

The **title** of a graph tells you what the graph is about.
The **labels** on the **axes** tell you what data are shown in the graph.

Pictograph

Symbols are used to show data in a pictograph.
The **key** shows what each symbol stands for.

Tickets Sold for Each Performance of the Fourth Grade Play

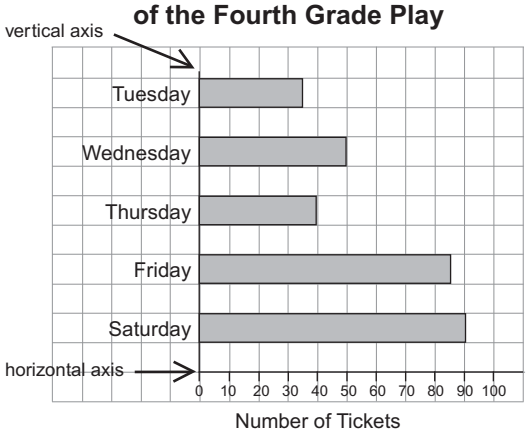


For this pictograph, the key is
represents 10 tickets.
So, represents 5 tickets.

Bar Graph

Bars are used to show data in a bar graph.
Numbers on the axis show the scale.

Tickets Sold for Each Performance of the Fourth Grade Play

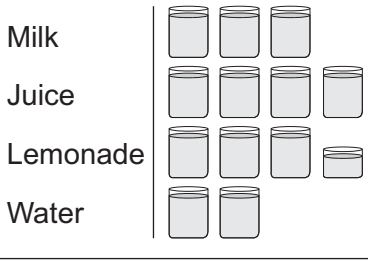


In this bar graph, 1 square represents 10 tickets.
So, $\frac{1}{2}$ square represents 5 tickets.

Try These

Use the pictograph to answer these questions.

Favourite Drinks



= 6 votes

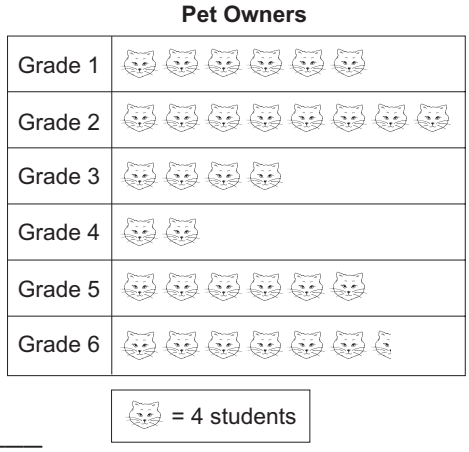
1. Which drink had the most votes? _____

2. Which drink had 12 votes? _____

3. How many votes did lemonade have? _____

Practice

1. This graph shows the number of pet owners in each grade at Parkdale School.

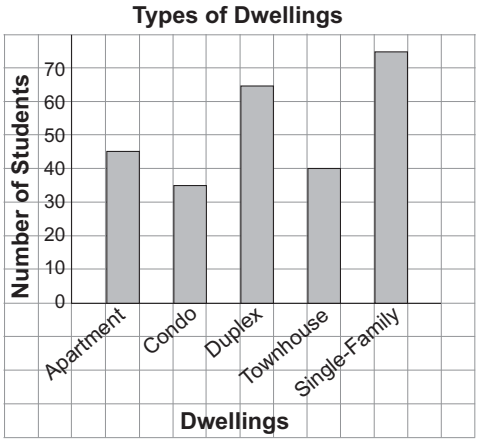


a) Which grade has the most pet owners? _____

b) Which grade has one-half as many pet owners as Grade 2? _____

c) How many pet owners did Grade 6 have? ____

2. This graph shows the types of dwellings the students in Enzo's school live in.



a) How many students live in condos?

_____

b) How many more students live in duplexes than condos?

_____

c) How many students live in condos and townhouses altogether?

_____

d) 26 girls live in apartments. How many boys live in apartments?

_____

Stretch Your Thinking

How many students attend Enzo's school? Show how you know.

_____

_____

_____

UNIT 7

STUDENT BOOK 2 LESSON

Drawing Pictographs

Quick Review

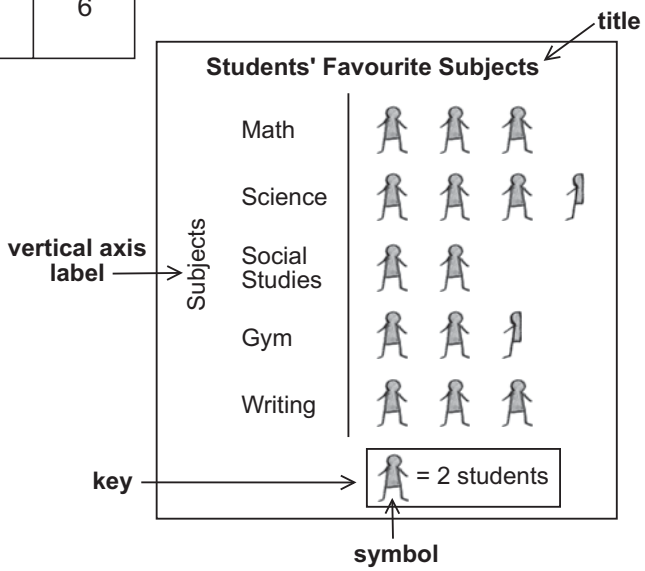
At Home At School

Here are the results of a survey showing the favourite subjects of students in Kim's class.

Subject	Math	Science	Social Studies	Gym	Writing
Number of Students	6	7	4	5	6

Here's how Kim made a pictograph to display these data.

To make sure her graph was not too large, Kim chose  to represent 2 students. Kim completed the pictograph with a key, a label on the axis, and a title.



Try These

1. Suppose you drew a pictograph to represent the data in each table. What key would you use for each graph?

a)

Favourite Fruit	Number of Students
Orange	12
Apple	6
Banana	8
Grape	10

b)

Eye Colour	Number of People
Blue	25
Brown	40
Grey	5
Green	15

Key: _____

Key: _____

Practice

1. Draw a pictograph to display these data.

Names for Our Fish

	Bubbles	Spotty	Precious	Ralph
Number of students	20	10	5	10

2. Finish the pictograph to display the data in the table.

Birds Seen in the Park

Bird	Number
Crow	4
Robin	12
Chickadee	14
Duck	20

Birds Seen in the Park

Crow	
Robin	
Chickadee	
Duck	

= 4 birds

Stretch Your Thinking

Suppose the key on a pictograph is ◯ = 40 votes.
What symbol would you draw to represent:

10 votes? _____ 20 votes? _____

UNIT 7

STUDENT BOOK 3 LESSON

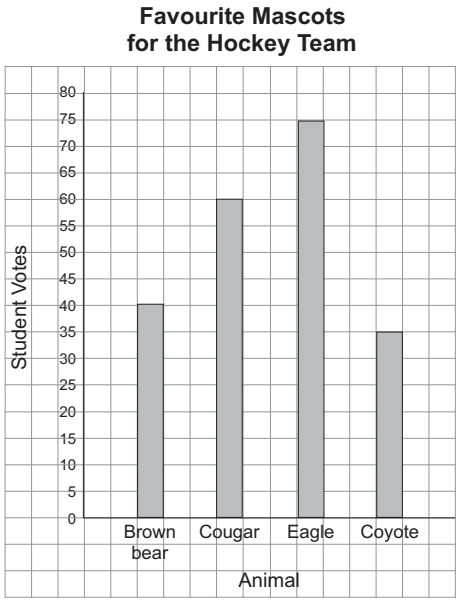
Drawing Bar Graphs

Quick Review

At Home At School

The students in Arnie's school voted on a mascot for their school hockey team. Here is a table Arnie made to show how they voted.

Animal	Student Votes
Brown bear	40
Cougar	60
Eagle	75
Coyote	35



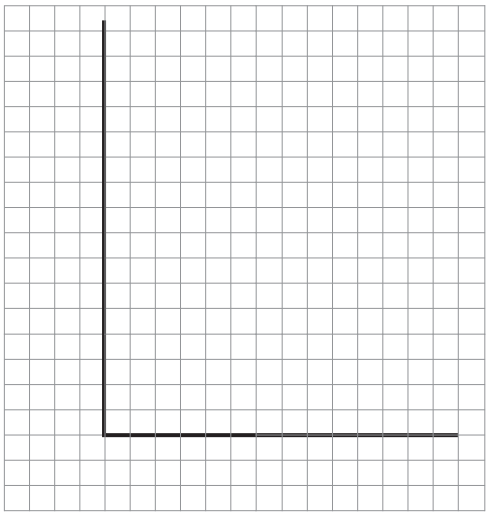
Here's how to draw a vertical bar graph to display the data in Arnie's table.

1. Draw 2 axes. Label them "Animal" and "Student Votes".
2. Count by 5s for the scale. The scale is 1 square represents 5 votes.
3. Draw a vertical bar for each animal in the table.
4. Write a title for the graph.

Try These

Use the data in this table to complete the graph.

Ice-Cream Flavour	Number of People
Vanilla	40
Chocolate	75
Strawberry	50



a) Label the axes.

b) Number the scale.

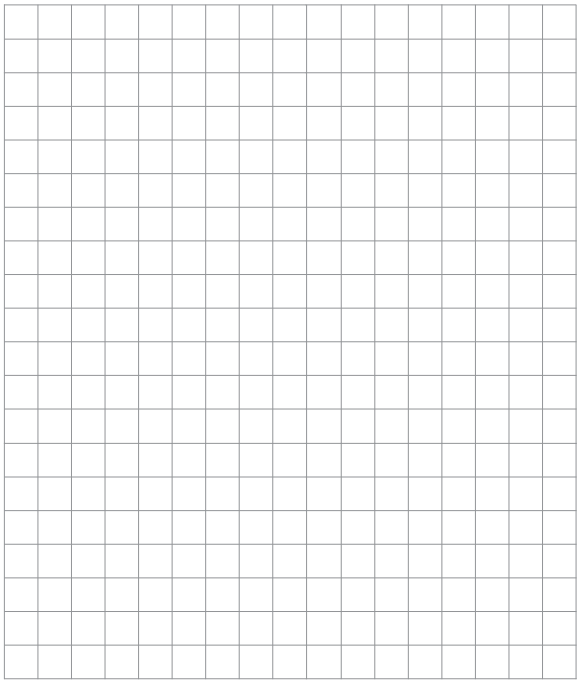
c) Give the graph a title.

Practice

1. The students in Peter's school voted for their favourite type of music. The results are displayed in this table.

Type of Music	Rock	Rap	Hip Hop	Pop
Number of Students	65	70	40	55

a) Draw a vertical bar graph to display these data.



b) Write two things you know from looking at your graph.

_____

_____

Stretch Your Thinking

Your grid paper has 20 squares along one side. The greatest value you have to display on the graph is 150. What scale will you use? Explain.

_____

_____

UNIT 7

STUDENT BOOK 4 LESSON

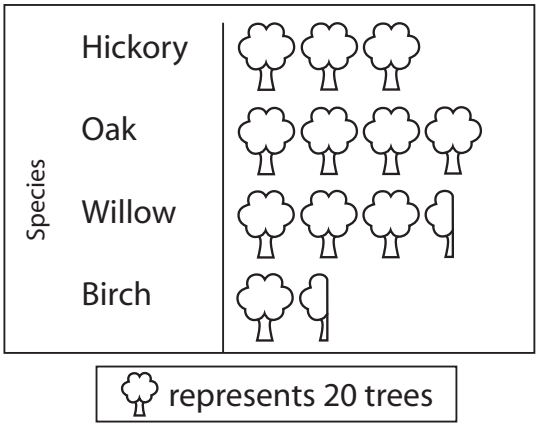
Comparing Pictographs and Bar Graphs

Quick Review

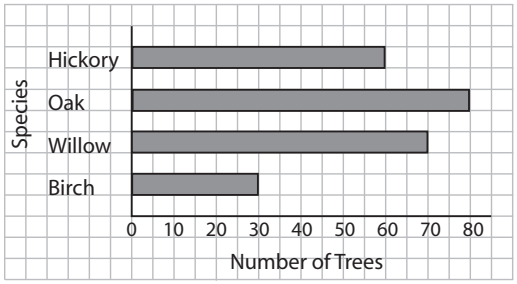
At Home / At School

These two graphs show the same data.

Trees Planted in Victory Park



Trees Planted in Victory Park



In the pictograph, symbols show the data.
In the bar graph, bars show the data.

From the pictograph, we use the key to determine the number of trees.
From the bar graph, we use the scale to determine the number.

Try These

Use the data displayed in the graphs above.

a) How many oak trees were planted in Victory Park? _____

b) What does  on the pictograph represent? _____

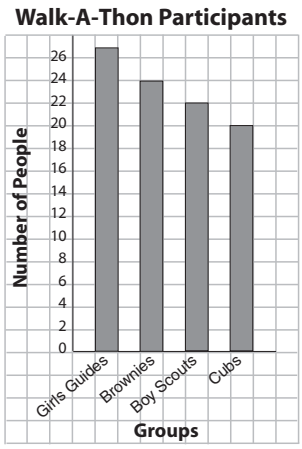
c) How many birch trees were planted? _____

d) What is the scale on the bar graph? _____

e) How many more oak trees were planted than willow trees? _____

Practice

1. Use the data in the bar graph.



a) How many people took part in the walk-a-thon? _____

b) Which group had the most people? _____

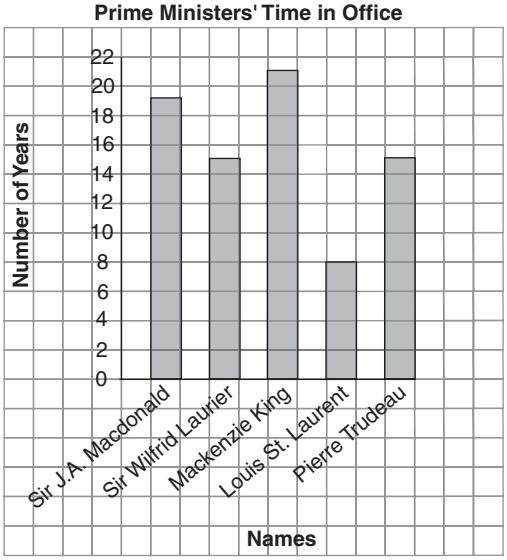
c) How many more Brownies took part than Cubs? _____

d) Suppose you wanted to display these data as a pictograph. What key would you use?

_____

How many symbols would you need for the Girl Guides? _____

2. This bar graph shows how long five of Canada's Prime Ministers of Canada were in office.



a) Who was in office the longest time?

_____

Who was in office the shortest time?

_____

b) Who was in office about 7 years longer than St. Laurent?

_____

_____

Stretch Your Thinking

Lester B. Pearson was Prime Minister from April, 1963 to April, 1968.

How long was he in office?_____

Add this information to the graph in question 2 above.

UNIT 8

STUDENT BOOK 1 LESSON

Exploring Multiplication Patterns

Quick Review

At Home At School

➤ Use place value to multiply by 10 and by 100.

You know $5 \times 1 = 5$.
Use mental math to find 5×10 and 5×100.

5×1 ten = 5 tens — $5 \times 10 = 50$
5×1 hundred = 5 hundreds — $5 \times 100 = 500$

➤ Use basic multiplication facts and place value to multiply by multiples of 10 and 100.

You know $3 \times 3 = 9$.
Use mental math to find 3×30 and 3×300.

3×3 tens = 9 tens — $3 \times 30 = 90$
3×3 hundreds = 9 hundreds — $3 \times 300 = 900$

Try These

Multiply. Use Base Ten Blocks when they help.

1. a) $6 \times 1 =$ _____ **b)** $8 \times 1 =$ _____ **c)** $9 \times 1 =$ _____

$6 \times 10 =$ _____ $8 \times 10 =$ _____ $9 \times 10 =$ _____

$6 \times 100 =$ _____ $8 \times 100 =$ _____ $9 \times 100 =$ _____

2. a) $3 \times 2 =$ _____ **b)** $5 \times 2 =$ _____ **c)** $4 \times 2 =$ _____

$3 \times 20 =$ _____ $5 \times 20 =$ _____ $4 \times 20 =$ _____

$3 \times 200 =$ _____ $5 \times 200 =$ _____ $4 \times 200 =$ _____

3. a) $8 \times 4 =$ _____ **b)** $3 \times 4 =$ _____ **c)** $5 \times 4 =$ _____

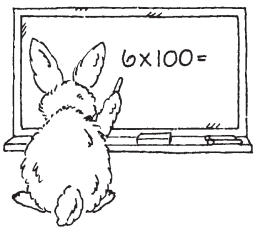
$8 \times 40 =$ _____ $3 \times 40 =$ _____ $5 \times 40 =$ _____

$8 \times 400 =$ _____ $3 \times 400 =$ _____ $5 \times 400 =$ _____

Practice

Find each product. Then fill in the boxes below with the letters that match the products. The words in the boxes will answer this riddle:
Why do rabbits make good mathematicians?

A	$6 \times 100 =$ _____	**J**	$200 \times 5 =$ _____	**S**	$8 \times 20 =$ _____
B	$8 \times 10 =$ _____	**K**	$5 \times 100 =$ _____	**T**	$3 \times 80 =$ _____
C	$3 \times 50 =$ _____	**L**	$4 \times 30 =$ _____	**U**	$7 \times 50 =$ _____
D	$80 \times 7 =$ _____	**M**	$9 \times 10 =$ _____	**V**	$5 \times 10 =$ _____
E	$6 \times 80 =$ _____	**N**	$2 \times 9 =$ _____	**W**	$7 \times 300 =$ _____
F	$3 \times 300 =$ _____	**O**	$2 \times 100 =$ _____	**X**	$8 \times 90 =$ _____
G	$6 \times 400 =$ _____	**P**	$6 \times 30 =$ _____	**Y**	$4 \times 200 =$ _____
H	$5 \times 60 =$ _____	**Q**	$7 \times 700 =$ _____	**Z**	$9 \times 50 =$ _____
I	$7 \times 100 =$ _____	**R**	$3 \times 10 =$ _____		



☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	
↑	↑	↑	↑	↑	↑	↑		↑	↑	↑	↑	
80	480	150	600	350	160	480		240	300	480	800	

☐	☐	☐	☐	☐	☐	☐	☐	☐
↑	↑	↑	↑	↑	↑	↑	↑	↑
90	350	120	240	700	180	120	800	

Stretch Your Thinking

There are 40 quarters in a roll.
How many quarters are there in 10 rolls?

_____

How many quarters are there in 100 rolls?

_____

UNIT 8

STUDENT BOOK 2 LESSON

Estimating Products

Quick Review

At Home At School

Estimate to solve multiplication problems.

➤ A basket holds 23 apples.
About how many apples do 5 baskets hold?
To estimate 5×23
$5 \times 20 = 100$
There are about 100 apples in 5 baskets.

Think: 23 is close to 20.

➤ A bucket holds 28 tennis balls.
About how many tennis balls do 7 buckets hold?
To estimate 7×28
$7 \times 30 = 210$
There are about 210 tennis balls in 7 buckets.

Think: 28 is close to 30.

Try These

1. Estimate each product.

a) 4×29
Estimate: _____

b) 6×52
Estimate: _____

c) 5×81
Estimate: _____

2. There are 48 crayons in a box.

About how many crayons are there in 8 boxes? _____

3. There are 9 chairs in each row.

About how many chairs are there in 18 rows? _____

4. Kara bought 27 packs of stickers. There are 8 stickers in each pack.

About how many stickers does Kara have? _____

Practice

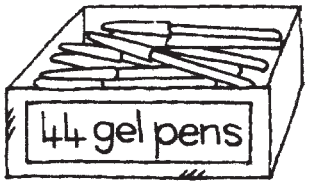
1. Estimate each product.

a) 6×78 _____ **b)** 4×93 _____ **c)** 9×42 _____

d) 5×69 _____ **e)** 7×21 _____ **f)** 52×7 _____

g) 38×8 _____ **h)** 47×6 _____ **i)** 84×5 _____

2. About how many gel pens would you have if you bought:



a) 3 boxes? _____ **b)** 7 boxes? _____

c) 5 boxes? _____ **d)** 8 boxes? _____

3. Bertha types 58 words a minute.
About how many words can she type in:

a) 5 minutes? _____

b) 8 minutes? _____

c) 30 minutes? _____

4. Estimate how many treats you would get from:

a) 6 piñatas _____

b) 4 piñatas _____

c) 9 piñatas _____

d) 8 piñatas _____

Stretch Your Thinking

Jack collects superhero trading cards.
He has 5 collections with 22 cards each and 7 collections with 27 cards each.
About how many cards does Jack have altogether?

_____

_____

UNIT 8

STUDENT BOOK 3 LESSON

Using Models to Multiply

Quick Review

At Home At School

Here are two ways to use models to multiply 5×22.

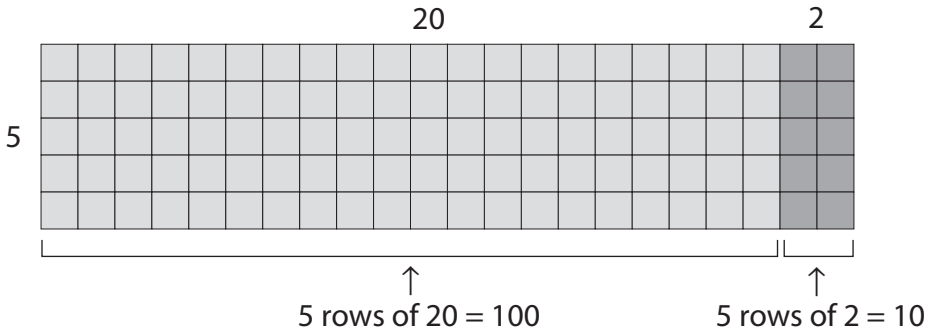
➤ Use Base Ten Blocks. Arrange 5 groups of 22.

Multiply the tens. $5 \times 20 = 100$

Multiply the ones. $5 \times 2 = 10$

Add. $100 + 10 = 110$

➤ Show an array on grid paper.

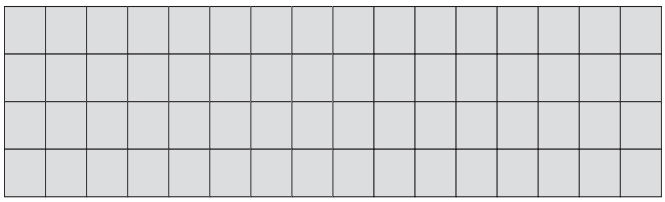


Add. $100 + 10 = 110$

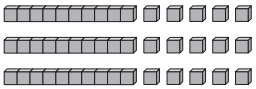
Try These

Use the models to multiply.

1. a)



b)



$4 \times 16 =$ _____

$4 \times 10=$ _____

_____

_____

$3 \times 15 =$ _____

3 rows of 10 = _____

_____

_____

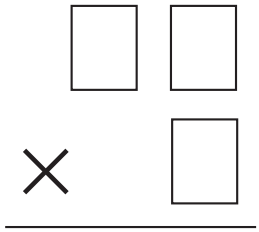
Practice

1. Multiply. Use grid paper or Base Ten Blocks when they help.

a) 32 × 4	**b)** 42 × 4	**c)** 84 × 2	**d)** 71 × 8	**e)** 65 × 3
f) 56 × 3	**g)** 19 × 5	**h)** 57 × 6	**i)** 48 × 4	**j)** 56 × 9

2. Play this game with a partner.

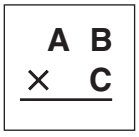
You will need:
10 small pieces of paper with one of these numbers written on each piece: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
a small paper bag
paper and pencil



- ➤ Draw a multiplication grid like this on your paper.
- ➤ Put the numbered pieces of paper in a bag.
- ➤ Pull out 3 numbered pieces each.
- ➤ Record each digit in one of the boxes in your multiplication grid.
- ➤ Find your products.
  The player with the greater product wins a point.
- ➤ Play 5 rounds.
- ➤ Then, change the rules to make a new game. Record your digits in the boxes of your partner's multiplication grid. Play 5 more rounds.

Stretch Your Thinking

The box to the right represents the game you just played.
The digit boxes are represented by A, B, and C.
Which digit box is the best place to write your highest number?
Explain.



_____

_____

UNIT 8

STUDENT BOOK 5 LESSON

Other Strategies for Multiplication

Quick Review

At Home At School

Here are 3 ways to multiply: 64×6.

➤ Multiply the tens. → Multiply the ones. → Add.

$60 \times 6 = 360$ $\quad 4 \times 6 = 24$ $\quad 360 + 24 = 384$

So, $64 \times 6 = 384$

➤ Write the number in expanded form: $64 = 60 + 4$

Multiply the tens and multiply the ones. Then add.

$6 \times 64 = (6 \times 60) + (6 \times 4)$

$\downarrow \quad \downarrow$

$360 + 24 = 384$

So, $64 \times 6 = 384$

➤ Break the number apart.

Multiply the ones: $6 \times 4 \longrightarrow 24$

Multiply the tens: $6 \times 60 \longrightarrow 360$

Add.

$$\begin{array}{r} 64 \\ \times\ 6 \\ \hline 24 \\ 360 \\ \hline 384 \end{array}$$

So, $64 \times 6 = 384$

Try These

Find each product. Show your work.

1. a) $27 \times 8 =$ _____ **b)** $58 \times 3 =$ _____ **c)** $77 \times 7 =$ _____

2. a) $\begin{array}{r} 51 \\ \times\ 8 \\ \hline \end{array}$ **b)** $\begin{array}{r} 35 \\ \times\ 6 \\ \hline \end{array}$ **c)** $\begin{array}{r} 63 \\ \times\ 2 \\ \hline \end{array}$

Practice

Play this game with a partner.

You will need:
paper and pencils
counters of 2 colours

- Take turns to choose one number from each number box.
  Multiply your 2 numbers and cover the product on the game board with a counter.
- Continue playing until one player covers 4 products in a vertical, horizontal, or diagonal line.

117	**216**	**304**	**504**	**135**	**54**	**252**
424	**380**	**159**	**273**	**336**	**234**	**532**
78	**456**	**608**	**106**	**162**	**371**	**212**
189	**228**	**312**	**265**	**672**	**108**	**318**
156	**168**	**195**	**588**	**81**	**420**	**152**

2		5
3		6
4		7
	8	

53		84
76		27
	39	

Stretch Your Thinking

Which product is greater, 98 × 6 or 76 × 9? How much greater?

UNIT 8

STUDENT BOOK 6 LESSON

Using Patterns to Multiply

Quick Review

At Home At School

You can use patterns and mental math to multiply.

➤ Multiply: 7×89

Think:

89 is 1 less than 90.
So, 7×89 is
7 less than 7×90.
$7 \times 90 = 630$
Subtract 7.
$630 - 7 = 623$
So, $7 \times 89 = 623$

➤ Multiply: 6×52

Think:

52 is 2 more than 50.
So, 6×52 is
6×50 plus 6×2.
$6 \times 50 = 300$
Add 6×2, or 12.
$300 + 12 = 312$
So, $6 \times 52 = 312$

Try These

Use patterns to multiply.

1. **a)** $6 \times 78 =$ _____ **b)** $4 \times 29 =$ _____ **c)** $5 \times 59 =$ _____

d) $7 \times 68 =$ _____ **e)** $8 \times 27 =$ _____ **f)** $9 \times 79 =$ _____

2. **a)** $8 \times 31 =$ _____ **b)** $7 \times 52 =$ _____ **c)** $6 \times 42 =$ _____

d) $4 \times 92 =$ _____ **e)** $9 \times 71 =$ _____ **f)** $8 \times 62 =$ _____

3. **a)** $53 \times 8 =$ _____ **b)** $79 \times 7 =$ _____ **c)** $61 \times 6 =$ _____

d) $82 \times 5 =$ _____ **e)** $58 \times 4 =$ _____ **f)** $32 \times 9 =$ _____

g) $41 \times 6 =$ _____ **h)** $9 \times 82 =$ _____ **i)** $51 \times 7 =$ _____

Practice

1. Use patterns to complete each multiplication chart.

a)

×	12	13	14	15
5				
6				
7				

b)

×	20	21	22	23
7				
8				
9				

2. Hot dogs cost $2 each. How much do 7 hot dogs cost?

_____

3. Marbles are sold in bags of 49. How many marbles are in 8 bags?

_____

4. There are 52 cards in a deck. How many cards are in 7 decks?

_____

5. There are 13 doughnuts in a baker's dozen.

How many doughnuts are there in 9 bakers' dozens? _____

6. There are 24 pencil-tip erasers in a package.

How many erasers are there in 6 packages? _____

Stretch Your Thinking

Explain how you could use patterns to find 7 × 699.

_____

_____

_____

UNIT 8

STUDENT BOOK 7 LESSON

Multiplying a 3-Digit Number by a 1-Digit Number

Quick Review

At Home At School

Margaret bought 5 boxes of paper clips.
Each box contains 175 paper clips.
How many paper clips did she get?

The total number of paper clips is 5×175.

Here is one way to multiply:
Break 175 apart.
Multiply each part by 5.
Then add.

$$\begin{array}{rr} & 175 \\ & \times\ 5 \\ \hline \text{Multiply the ones: } 5 \times 5 \longrightarrow & 25 \\ \text{Multiply the tens: } 5 \times 70 \longrightarrow & 350 \\ \text{Multiply the hundreds: } 5 \times 100 \longrightarrow & +\ 500 \\ \text{Add.} & 875 \end{array}$$

Margaret got 875 paper clips.

Try These

1. Multiply.

a) $\begin{array}{r} 340 \\ \times\ 2 \\ \hline \end{array}$ **b)** $\begin{array}{r} 121 \\ \times\ 9 \\ \hline \end{array}$ **c)** $\begin{array}{r} 517 \\ \times\ 8 \\ \hline \end{array}$ **d)** $\begin{array}{r} 258 \\ \times\ 7 \\ \hline \end{array}$ **e)** $\begin{array}{r} 409 \\ \times\ 6 \\ \hline \end{array}$

2. Lester has 3 books of stickers. Each book has 144 stickers.
How many stickers does Lester have? _____

Practice

1. Multiply.

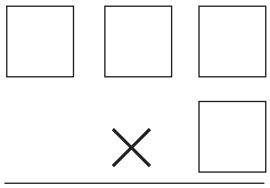
a) $\begin{array}{r} 763 \\ \times\ 4 \\ \hline \end{array}$ **b)** $\begin{array}{r} 495 \\ \times\ 8 \\ \hline \end{array}$ **c)** $\begin{array}{r} 508 \\ \times\ 9 \\ \hline \end{array}$ **d)** $\begin{array}{r} 659 \\ \times\ 5 \\ \hline \end{array}$ **e)** $\begin{array}{r} 828 \\ \times\ 3 \\ \hline \end{array}$

f) $614 \times 7 =$ _____ **g)** $8 \times 271 =$ _____ **h)** $366 \times 6 =$ _____

2. There are 125 balloons in a bag.
How many balloons are there in 7 bags? _____

3. Play this game with a partner.
You will need a set of 10 cards numbered 0 to 9.

➤ Each of you draw a multiplication grid like this:



➤ Shuffle the cards and lay them face side down.
➤ Take turns flipping over a card.
Each time a card is turned over, both players write that number in any box on their grids.
➤ Continue until players have filled all the boxes on their grids.
➤ Multiply. The player with the greater product wins.

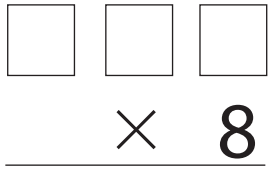
Play 5 more games.

Stretch Your Thinking

Choose a 3-digit number to multiply by 8 so that the product is between 4000 and 5000, but closer to 4000.

_____

_____



UNIT 8

STUDENT BOOK 8 LESSON

Estimating Quotients

Quick Review

At Home / At School

In a division fact, the answer is the **quotient**.

$18 \div 6 = 3$

↑

quotient

Here are two ways to estimate $74 \div 8$.

➤ Use division.

Think

74 is close to 72.
72 is a multiple of 8.
$72 \div 8 = 9$.

So, $74 \div 8$ is about 9.

➤ Use multiplication.

Think

About how many groups of 8 are in 74?
9×8 is 72.
72 is close to 74.

So, $74 \div 8$ is about 9.

Try These

1. Circle the quotient in each division fact.

a) $24 \div 8 = 3$ **b)** $32 \div 4 = 8$ **c)** $48 \div 6 = 8$

2. Write a division fact that helps you estimate each quotient.

a) $37 \div 6$ _____ **b)** $48 \div 7$_____ **c)** $25 \div 4$ _____

3. Write a multiplication fact that helps you estimate each quotient.

a) $17 \div 8$ _____ **b)** $82 \div 9$ _____ **c)** $34 \div 7$ _____

Practice

1. Write a division and a multiplication fact that help you estimate the quotient.

a) 23 ÷ 6 _____ _____ **b)** 55 ÷ 9 _____ _____

c) 36 ÷ 5 _____ _____ **d)** 39 ÷ 8 _____ _____

2. Estimate each quotient.

a) 17 ÷ 6 _____ **b)** 44 ÷ 9 _____ **c)** 37 ÷ 5 _____ **d)** 20 ÷ 7 _____

e) 19 ÷ 2 _____ **f)** 33 ÷ 4 _____ **g)** 29 ÷ 3 _____ **h)** 70 ÷ 8 _____

3. Joachim has 71 stickers. He wants to arrange them into 8 groups. About how many stickers will be in each group? _____

4. About how many weeks are there in 44 days? _____

5. Eighty-four students sign up for basketball. The coach puts them into 9 teams. About how many students are on each team? _____

6. Sarah shares 26 seashells among 8 friends. About how many seashells does each friend get? _____

Stretch Your Thinking

Is the quotient of 55 ÷ 7 greater than or less than 8? Explain.

_____

_____

UNIT 8

STUDENT BOOK 9 LESSON

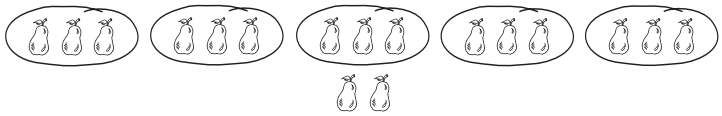
Division with Remainders

Quick Review

At Home / At School

➤ Here's how to share 17 pears equally among 5 boxes.

Divide: 17 ÷ 5



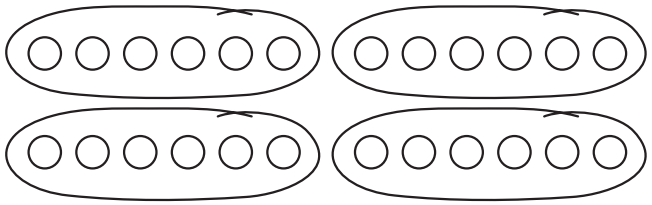
Put 3 pears in each box.
There are 2 pears left over.
Write: 17 ÷ 5 = 3 R2
This is a division sentence.
The "R" stands for remainder.

Say 17 divided by 5 is 3 remainder 2.

➤ Here's how to decide how many tables are needed for 32 students eating in the lunchroom. Six students can fit at each table.
Divide: 32 ÷ 6
Think about the division fact that is closest to 32 ÷ 6.
You know that 30 ÷ 6 = 5. So, 32 ÷ 6 = 5 R2
But if 5 tables are used, then 2 students cannot sit at a table.
So, 6 tables are needed.

Try These

1. Write a division sentence for this picture.



_____

2. Divide.

a) 15 ÷ 6 = _____ **b)** 27 ÷ 5 = _____ **c)** 31 ÷ 4 = _____

d) 19 ÷ 6 = _____ **e)** 17 ÷ 4 = _____ **f)** 37 ÷ 8 = _____

Practice

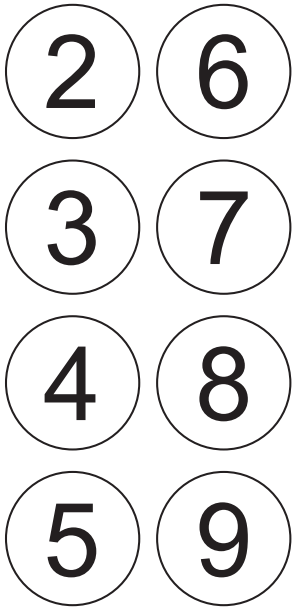
1. Play this game with a partner.

You will need:
counters of two colours
number cubes: one labelled 1, 1, 2, 2, 3, 3 and one labelled 4, 4, 5, 5, 6, 6

Take turns:

- Roll the number cubes to make a 2-digit number.
  (For example, with 6 and 3, you can make 63 or 36.)
- Place a counter on a circled number.
  Divide your 2-digit number by the number in your circle.
- Place a counter on a square containing your remainder if you can.
- Remove your counter from the circle.
  Continue playing until all the squares are covered.

7	5	2	4	1
6	3	6	8	6
1	5	0	3	0
2	4	8	7	2
0	5	3	1	4



Stretch Your Thinking

1. Write a division sentence with remainder 8.

_____

2. Write a division sentence with remainder 4.

_____

UNIT 8

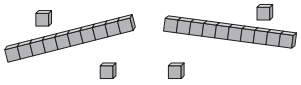
STUDENT BOOK 10 LESSON

Using Base Ten Blocks to Divide

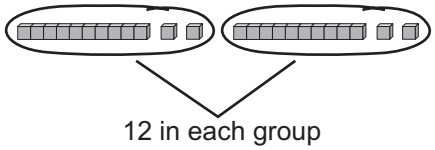
Quick Review

At Home At School

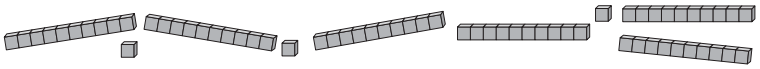
➤ Divide: 24 ÷ 2



Divide the blocks into two equal groups.
So, 24 ÷ 2 = 12



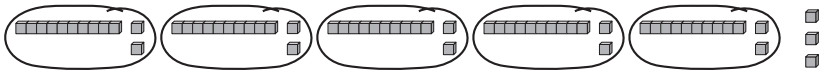
➤ Divide: 63 ÷ 5



Divide the blocks into 5 equal groups.
There are 10 in each group and 13 left over.

Trade the leftover ten rod for 10 unit cubes.

Divide the 13 unit cubes among the 5 equal groups.



So, 63 ÷ 5 = 12 R3

Try These

1. Divide. Use Base Ten Blocks when they help.

a) 88 ÷ 4 = _____ **b)** 54 ÷ 3 = _____ **c)** 37 ÷ 2 = _____

d) 89 ÷ 8 = _____ **e)** 25 ÷ 2 = _____ **f)** 41 ÷ 3 = _____

2. Divide. Draw a picture to show how you got the answer.

27 ÷ 7 = _____

Practice

1. Divide. Use Base Ten Blocks when they help.

a) 56 ÷ 7 = _____ **b)** 81 ÷ 9 = _____ **c)** 35 ÷ 4 = _____

d) 27 ÷ 6 = _____ **e)** 75 ÷ 8 = _____ **f)** 24 ÷ 6 = _____

2. Write a division sentence to show each answer.

a) Nine children want to share 36 stickers equally.
How many stickers will each child get?

_____

b) It takes 2 cups of milk to make a milkshake.
How many milkshakes can be made with 17 cups of milk?

_____

c) Emilio is putting 7 treats into each party bag.
How many bags can he fill with 59 treats?

_____

3. Three tennis balls fit into each carton.
How many cartons are needed for 29 tennis balls?

_____

4. Four children can fit into each seat on the carnival ride.
How many seats are needed for 39 children?

_____

5. Write 2 division sentences with remainders.

_____

Stretch Your Thinking

Daniella divided a number between 45 and 50 by 5. The remainder was 4.
What number did Daniella divide? Write the division sentence.

_____

UNIT 8

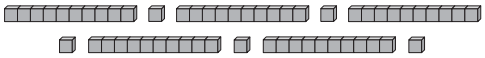
STUDENT BOOK 11 LESSON

Another Strategy for Division

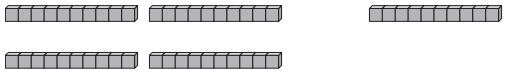
Quick Review

At Home / At School

Divide: 55 ÷ 2



Arrange the 5 rods in 2 equal rows.

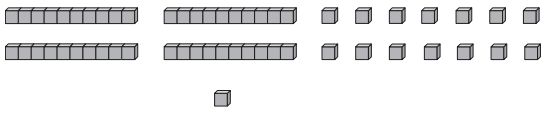


One ten rod remains.

Trade the leftover ten rod for 10 ones.

Now you have 15 unit cubes.

Share the 15 cubes equally among the 2 groups.



So, 55 ÷ 2 = 27 R1

You write:

$$2\overline{)5^{1}5}\quad 2$$

$$2\overline{)5^{1}5}\quad 2\ 7\ \text{R}1$$

This is called **short division**.

Try These

1. Divide. Use Base Ten Blocks when they help.

a) 25 ÷ 8 = _____ **b)** 42 ÷ 5 = _____ **c)** 59 ÷ 7 = _____

d) 29 ÷ 4 = _____ **e)** 37 ÷ 9 = _____ **f)** 34 ÷ 6 = _____

g) 20 ÷ 7 = _____ **h)** 52 ÷ 8 = _____ **i)** 19 ÷ 3 = _____

2. Luis divided 43 marbles equally among his 6 friends. How many marbles did each friend get? Did Luis have any marbles left? Write a division sentence to show how you got the answer.

_____

Practice

1. Play this game with a partner.

Start	40	21	33	11	44	29
45	You will need: 1 marker per player 50 counters per player 1 number cube marked 2 to 7 ➤ Place your markers on Start. ➤ Take turns. ➤ Roll the number cube. Move that many spaces in either direction. ➤ Divide the number you land on by the number you rolled. If you have a remainder, give that many counters to your partner. ➤ Continue to take turns. On each turn, you may move your marker in either direction. ➤ Play until one player runs out of counters. That player is the winner.					13
49						36
35						15
24						42
19						28
50						32
41	31	20	25	39	48	38

Stretch Your Thinking

Describe the strategy you used to try to win this game.

_____

_____

_____

Calendar Puzzles

Game

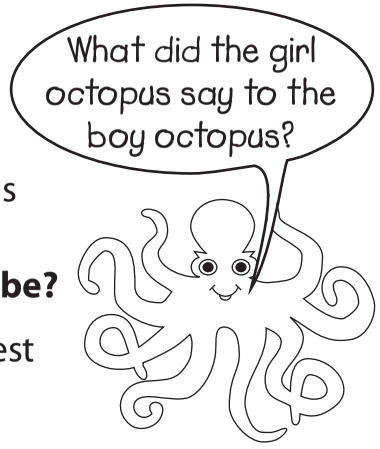
Take a month from an old calendar. Cut out all the squares except the 1st and put them in a paper bag. Now, you can challenge a friend to help you put the month back together!

- Pull a square out of the bag. In your head, figure out where that day would lay using the first day as your starting point.
- Did you use a pattern to help? Share it with your partner!
- Take turns until the month is back in "tiptop" shape! Could you use the same pattern for another month?

Did You Know?

Our number system was developed by mathematicians in India in the sixth century.
What could a possible date be?

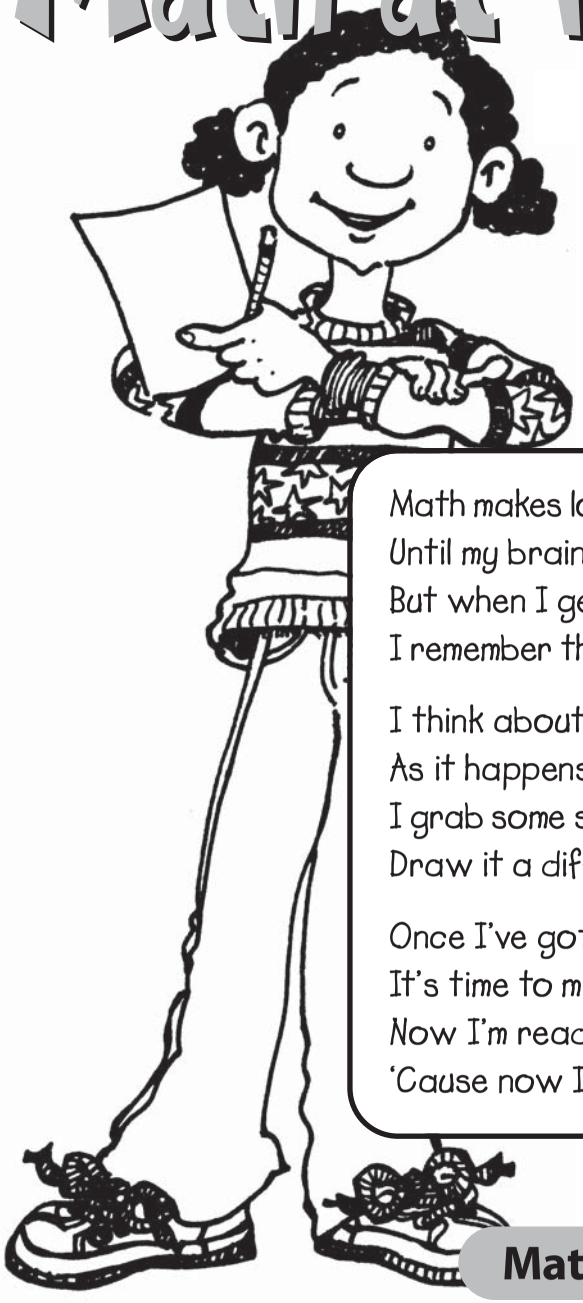
Traders carried the system west to Baghdad.
Arabs then took it to North Africa and Europe.
See how a good idea spreads?



I wanna hold your hand,
hand, hand, hand, hand,
hand, hand, hand

Fold

Math at Home



Math makes lots of sense to me
Until my brain goes numb.
But when I get confused,
I remember the "rule of thumb."

I think about the problem
As it happens day by day.
I grab some stuff and act it out,
Draw it a different way.

Once I've got the picture,
It's time to make a plan.
Now I'm ready to tackle it,
'Cause now I know I can!

Math at Home 1

4-In-A-Row

Game

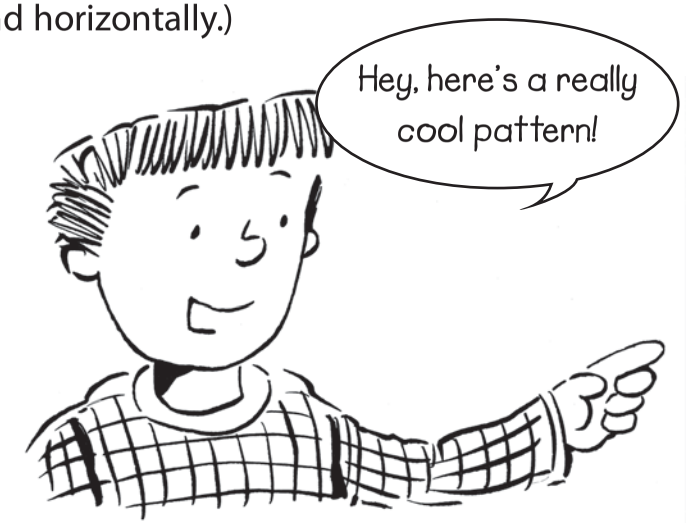
You'll need:

- ➤ different counters for each player
- ➤ cards numbered 1–10
- ➤ a multiplication table

On your turn:

- ➤ Choose 2 cards from the top of the pile.
- ➤ Find the numbers on the top row and left side column of the multiplication chart.
- ➤ Find the product of the two numbers and put a counter on that square.
- ➤ If you draw a 10, you get to put your counter on any square.

Take turns until someone gets 4 counters in a row. (The counters can run diagonally, vertically, and horizontally.)



Sum It Up!

Game

You'll need:

- ➤ 3 sets of cards numbered 1–9 (shuffled well)
- ➤ a coin
- ➤ a large book to use as a barrier

To begin:

Without peeking, each player draws 8 cards and lays them out one at a time, left to right in 2 rows of 4.

Flip the coin.

Switch the position of 2 cards.

Switch the position of 4 cards.

- ➤ Both players may switch any 2 or 4 cards to make the largest sum.

So, if you drew this:	1 7 4 8 2 9 3 6	Then flipped tails ...
You'd probably change it to this:	8 7 4 1 9 2 3 6	Switch the 8 and 1. Switch the 9 and 2.

- ➤ Figure out the sum of your two numbers.
- ➤ Show your numbers to your partner.
- ➤ The player with the highest sum earns a point.
- ➤ If the sums are within 1000 of each other, you both earn a point.
- ➤ The first player with 10 points wins!

How Many?

Oh, no! I was on my way to pick up balls for a "Family Fun Day" when I accidentally spilled pop on my list.

- Can you figure out how many of each ball I need?
- Is there more than one way to solve it? Make a list of all the choices.
- What if I could clean the spill enough to see that the first number had 2 digits, with a 0 in the ones place? How many of each ball would I need now?

Think About It!

□ × □ = **36**

◇ × □ = **42**

What is □ ?

What is ◇ ?

Make up your own puzzles for others to solve!

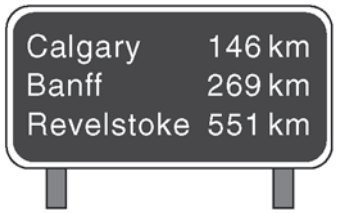
Multiplication Table for 4-In-A-Row

X	1	2	3	(4)	5	[6]	[7]	8	(9)
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
(4)	4	8	12	16	20	24	28	32	(36)
5	5	10	15	20	25	30	35	40	45
[6]	6	12	18	24	30	36	[42]	48	54
[7]	7	14	21	28	35	[42]	49	56	63
8	8	16	24	32	40	48	56	64	72
(9)	9	18	27	(36)	45	54	63	72	81

On a Trip ...

Do you find long car rides boring? Watch for a sign showing the number of kilometres to 2 or 3 places.

- Can you estimate the distance between those places, before you drive past?
- Get everyone in on it. Who can make the best estimate?



(Don't give up! The more you try it, the faster you'll get!)

Powerful Patterns

"I built 7 triangles with only 13 toothpicks."

"But that's impossible! Each triangle has 3 sides. $7 \times 3 = 21$."

What do **you** think?
Make a prediction, then try it out yourself. If you get stuck, use a mirror to read the hints below:

• Can you see a pattern in the number of toothpicks? How will you add each time?

• Do all of the triangles need to be separate?

What if you changed the shape to squares? Would you need to build it all to find out?

Mind Readers, Inc.

Master this trick and your friends will think you are a mind reader!
Lead your friends carefully through the following steps:

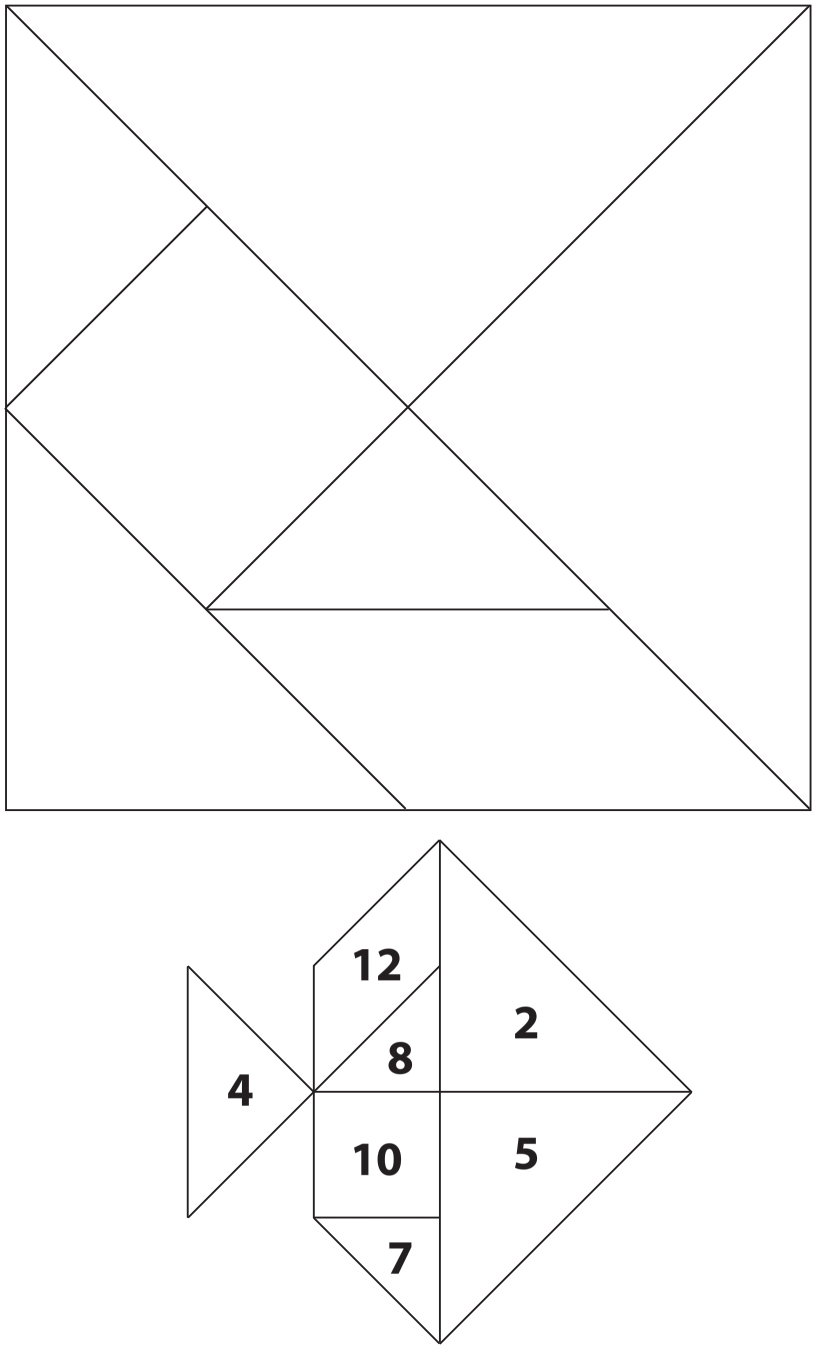
1. In your head, think of a secret number between **1** and **10**.
2. Double that number.
3. Add **12**. Now keep that **total** in your head.
4. Divide your **total** by **4** and remember the answer.
5. Now think of your original number. Take half of that and **subtract** it from the total in **step 4**.

Now tell your friend that the answer to his/her secret calculation is 3!

Can you figure out why it works?

Hint: Try using counters to build the idea.

Will it work with any number?



 The next 4 pages fold in half to make an 8-page booklet.

Fold

Math at Home

Math is all around my house.
It shows up everywhere.
How many eggs to bake a cake?
How long to brush my hair?

How many strokes will I need
To sweep the upstairs hall?
How many pop star posters
Can I squeeze on my bedroom wall?

How many of my sister's toys
Are scattered on the floor?
Should I pick them up in groups of two
Or grab a whole lot more?

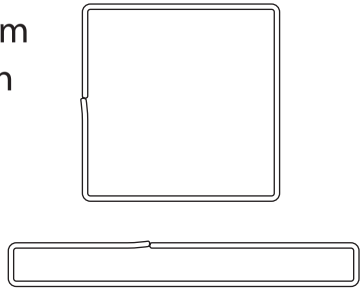
How much water fills the sink
To scrub those dishes clean?
How far can I blow the bubbles
And still keep from being seen?

How many minutes are left
Until all these jobs are done?
But wait! I guess it's no big deal,
'Cause "Mathy" chores are fun!

Math at Home 2

String Shapes

Cut two pieces of string 30 cm long. Use one piece to design a dog pen with the greatest possible area. Use the other one to design a pen with the least possible area.



What is the perimeter of both shapes? Hmmm … interesting!

Shopping Anyone?

Game

Before you play:

- Cut out from a grocery store flyer about 20 items that cost less than $4.00.
- Place the pictures in a bag you can't see through.
- Each take a pencil and paper and print $20.00 at the top of the page.

On your turn:

- Pull a "price tag" out of the bag.
- Print the price underneath the $20.00 and subtract. (Estimate first.)
- On your next turn, you'll subtract the price from the money you had left from your turn before.

Play until someone runs out of money!

Terrific Tangrams

Game

You'll need:

- 3 number cubes labelled 1 to 6
- 1 set of tangram pieces for each player (trace the pieces on the next page and cut apart)

The goal here is to earn each piece in order to make the fish on the next page!

On your turn:

- Roll all three number cubes.
- Add, subtract, multiply, or divide the numbers to try to get an answer that matches a number on a tangram shape.

If you rolled: 1 3 5

You might say, "5 × 1 is 5, and 5 + 3 is 8, so I get the shape with an 8 on it!"

Use the pieces you've earned to begin building a fish design. You can make it any way you choose. The example on page 8 shows one way to do it. But, here's the catch: every line of symmetry in your fish shape is worth 5 points if you can prove it!

How many different ways are there to make a fish with lines of symmetry? Can you design more than one?

Try it again – this time aim for a symmetrical design that is *not* a fish.

Chocolate Bar Surprise

Willie Wonka is looking for a great new chocolate bar to make in his "Chocolate Factory."

Follow the clues below to create the perfect bar for Willie.

- $\frac{1}{6}$ is mint (colour green)
- $\frac{1}{4}$ is caramel filled (colour golden brown)
- $\frac{1}{12}$ is dark chocolate (colour dark brown)
- $\frac{1}{12}$ is white chocolate (colour white)
- $\frac{5}{8}$ has rice crisps (colour speckled)

Now, design your own!
Tell a friend about each flavour using fractions.

Is anyone hungry?

Time Olympics

Game

With a friend, think of 10 "active events" to include in your "Time Olympics."
Print them on separate pieces of paper.

Here are a few ideas to get you started:

- Do the "hokey-pokey" 2 times through.
- Run around the house 3 times (outside, please!).
- Push a cotton ball across the floor with your nose.

- Put the pieces of paper face down on the table.
- One person chooses one and reads it.
- Both players write down an estimate of how long it will take to do the event.
- The player who picked the activity begins, while the other person keeps track of the time.
- Whoever ends up with the closest estimate keeps the card.
- Take turns until all Olympic events are done.

Whoever has the most cards wins GOLD!

How Long? How Wide? How Thick?

Game

You'll need:

- 3 of each card — **cm, m**
- a number cube labelled 1 to 6

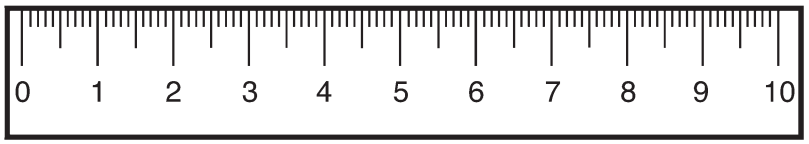
Before you begin, put the cards face down on the table. Decide how many points you'll need to win the game.

On your turn:

- Choose a card and roll the number cube.
- Find something in your house that is about the same length as the card and number cube show. (If you rolled a 2 and picked a cm card, you'd look for something with a dimension of 2 cm.)
- Once you've found something, measure it.
  If you're close: 1 point
  Exactly right: 2 points

Hmmm … How are you going to decide how close is close enough? Is it harder to guess within 2 m or 2 cm? Why?

Play until one player earns enough points!

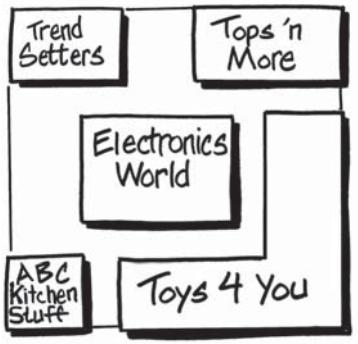


At the Mall

- Which stores do you think cover the greatest area?
- Which ones cover the least?
- Which ones are farthest away from each other?

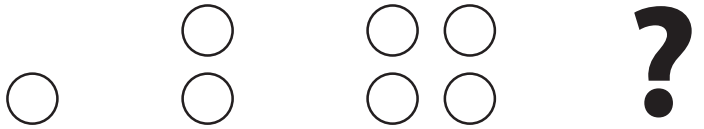
Check the mall layout sign and see if you're right!

Did anything surprise you?



Savvy Saving

If you start with 1¢ and double your savings each day, how long until you have about $5? Guess first, then try it!



How much do you think you'll have by the end of the month? A calculator could be your friend on this one!

Did You Know?

Ralf Laue of Germany can toss a pancake 416 times in 2 minutes. How many times could he do it in 1 minute? 6 minutes? 10 seconds?

Pet Survey

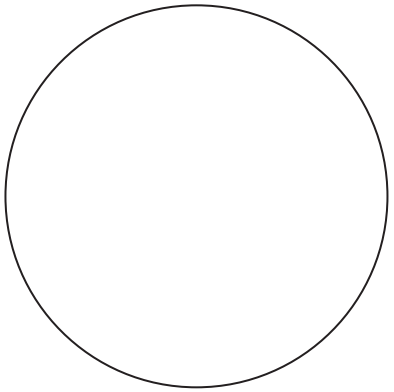
12 six-year-olds were surveyed about their favourite pets.

Check the results below!

Dog	Cat	Hamster	Goldfish	Bird
~~HHH~~	///	//	/	/

Now let's make it a bit more interesting!

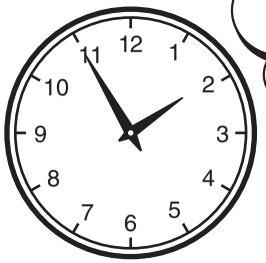
Take the results from the survey and turn them into a circle graph.



Need a hint?
Figure out what fraction of kids liked each pet best.

Got a Minute?

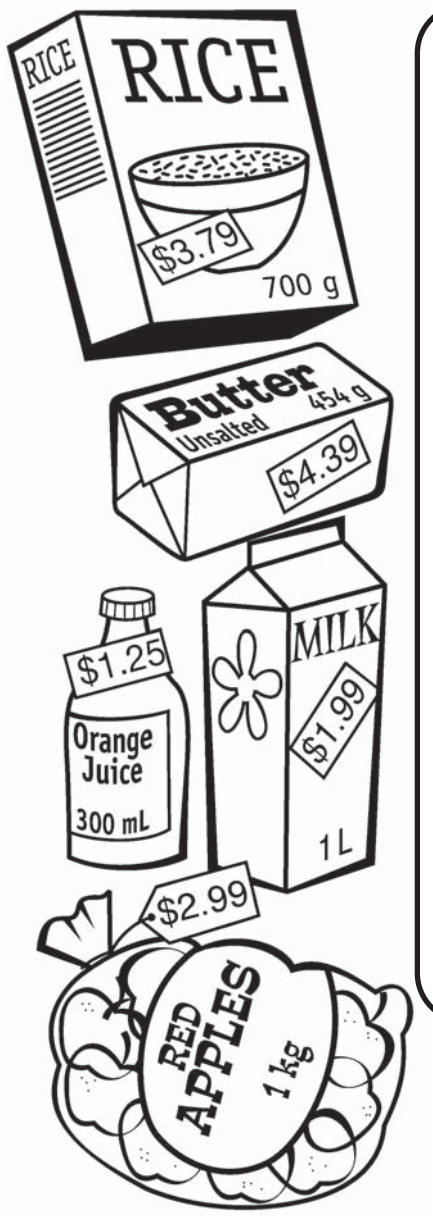
Look at a clock at your house and tell the time in two different ways.



I guess 1:55 is the same as 5 minutes to 2!

Fold

Math at Home



Visiting the supermarket
Needn't make you snore.
Just take a look around
And you'll see Math galore!

Numbers on the labels.
Numbers on the tags.
Numbers on the cash register.
Numbers on the bags.

There are shapes of every size
Lining every aisle.
Angles jumping out at you,
Just browse a little while.

Estimate the grocery bill.
Count up change galore!

But...

Don't ever let me hear you say,

"Shopping's just a BORE!"

Math at Home 3

Guesstimate!

Game

Here is a game you can play with 2 or more people. Before you begin, you will need to make number sentence strips. You can cut them from page 3 or make your own from cardstock.

1. Place all of your strips on the table, face up. Mix them up so that they are not in any particular order.
2. Player A chooses a strip (in her mind).
3. She now gives the hint by telling 2 numbers that are close to the product of that strip.

Example:

4. Player B tries to guess which strip Player A was thinking of. Could there be more than 1 answer?
5. Use the calculator to check!
6. Now switch roles.

Try making up your own number strips.
Use division, multiplication or maybe a combination!

Calculator Patterns

Game

Enter a number in a calculator and show it to a friend. Secretly, either add or subtract a one-digit number from the first number and press the equal key.

Give the calculator to your friend and ask him to press the equal key 3 more times, watching the numbers change each time. Challenge him to try to figure out what you did!

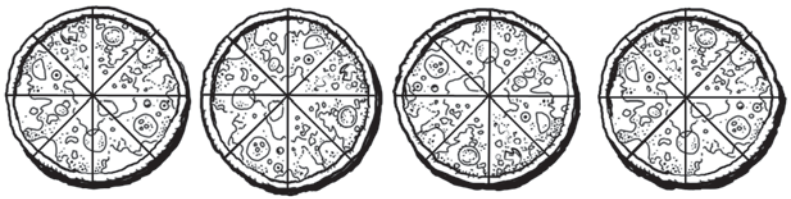
Switch places and play again!

Party Time

Imagine you're having a pizza party and 5 kids have been invited over.

- You estimate that each kid will eat 3 pieces. (Don't forget yourself!)
- If each pizza is cut into 8 pieces, how many whole pizzas will you need to order?

(Use the pizzas below to help you figure it out!)



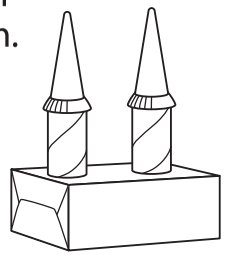
What fraction will be left over?

Art Attack!

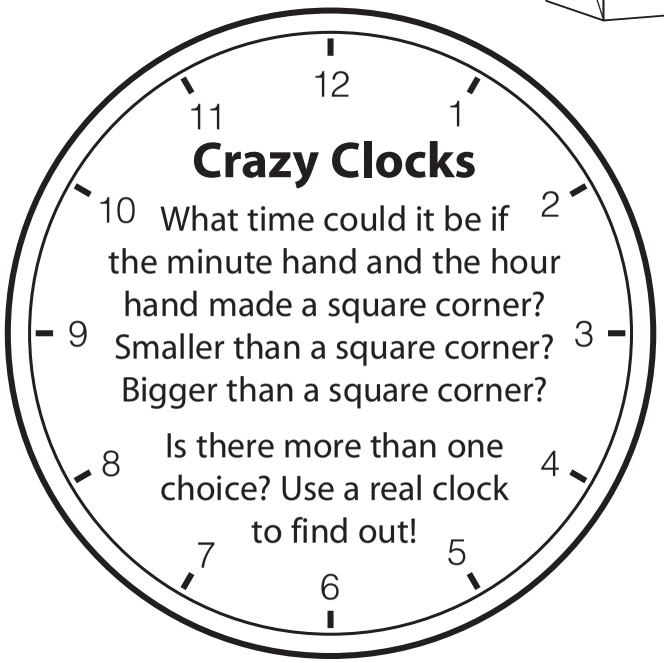
Create an abstract sculpture using many 3-D objects, some tape, and your imagination.

First, collect several empty boxes, toilet paper rolls, milk cartons, juice boxes, ice-cream cones, and any other interesting 3-D objects you can find.

Think about how the shapes might fit together and then start taping. Each time you pick up a new object, count the faces and name them.



When you're all done, tell someone about your masterpiece. (Be sure to point out lots of cool "attributes"!)



Guesstimate Number Strips

151 × 2	2 × 64	45 × 4
16 × 7	8 × 29	19 × 5
82 × 6	86 × 2	9 × 43
4 × 45	199 × 6	43 × 9
492 × 3	9 × 43	480 × 9
804 × 7	43 × 0	256 × 4

Dream Design

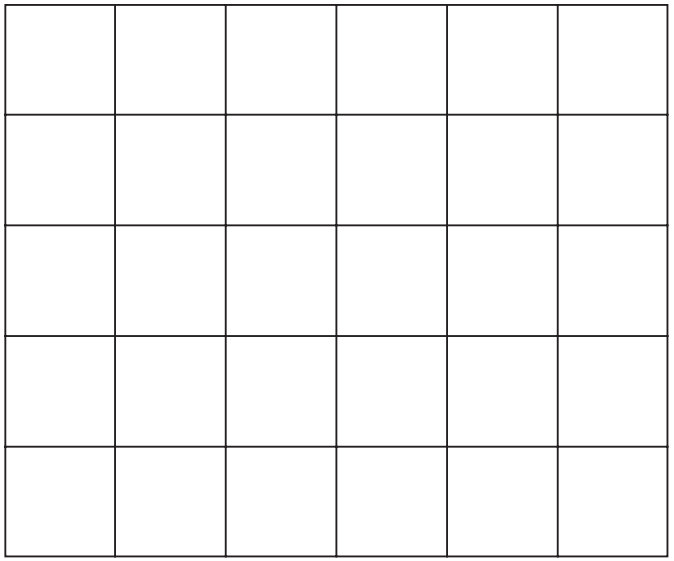
Have you always wanted that dream room but never been allowed to design your own? Here's your chance!

The grid below represents your new room.
Each square stands for 1 square metre.

What's the **area** of the room? What's the **perimeter**?

6 m

5 m



- ➤ Draw in furniture where you would like it placed. (Pretend you're looking down from the ceiling.)
- ➤ Estimate the actual size of real furniture and cover the right number of squares. (A queen-size bed would cover approximately 2 squares by $2\frac{1}{2}$ squares.)
- ➤ Colour your furniture.

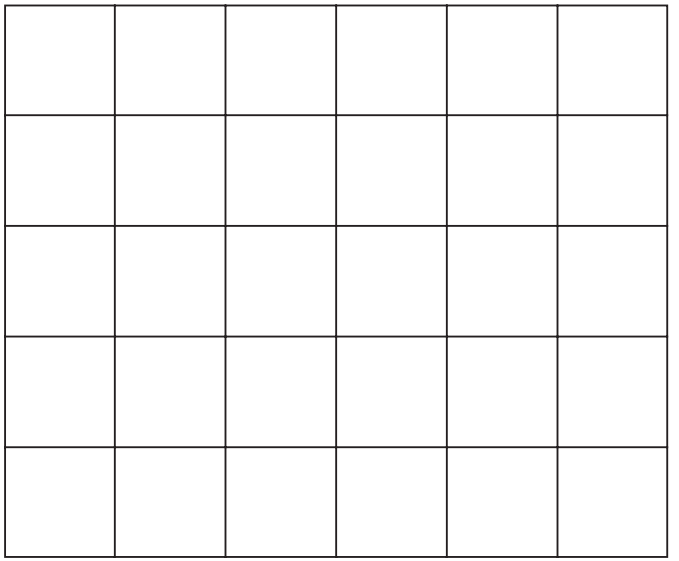
Let's Take a Closer Look …

- ➤ What area of floor space does your bed take up?
- ➤ Is it more or less than the dresser?
- ➤ What's the area of the "empty" floor space?
- ➤ Find the perimeter of 3 different pieces of furniture.
- ➤ If your room was only $\frac{1}{2}$ the size, would you still be able to fit all the furniture in? How could you test your prediction?

Great news! Now you get to design your floor!
Use at least 3 different colours to create an interesting tile pattern on the grid below.

6 m

5 m



Show your design to your family.
Do you think they'll go for it?