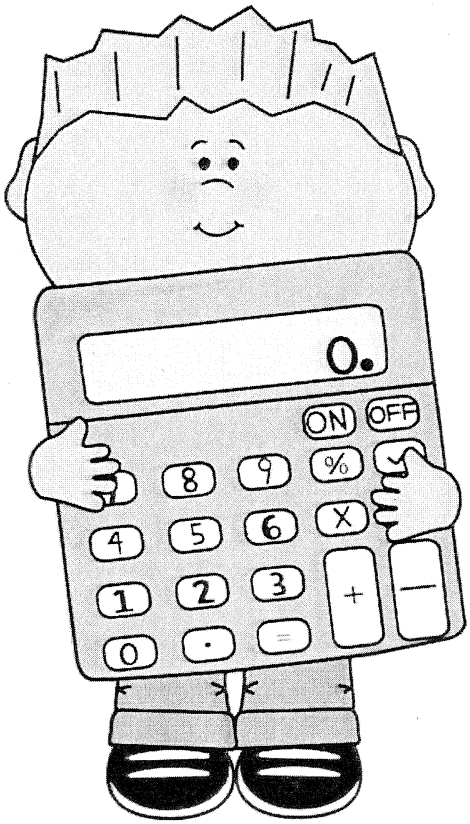
Unit 6
Study Guide

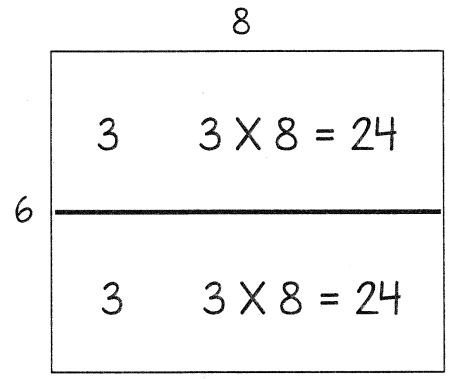
More Operations



Name: _____ Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 6 Review: More Operations

1) Nolan used doubling to solve 6 X 8.
This is what he did:



$6 \times 8 = 3 \times 8 + 3 \times 8$
$6 \times 8 = 24 + 24$
$6 \times 8 = 48$

a. Explain Nolan's work.

_____

_____

_____

b. Use doubling to solve 5 X 8.
Draw a picture and write number models.
You may use Nolan's work to help.

Unit 6 Review (continued)

2) Fill in the unit box. Then solve.

Unit

a.
$$\begin{array}{r} 624 \\ -\ 239 \\ \hline \end{array}$$

b. 421 – 349 = _____

3) In Baseball Multiplication, the greater the product from the dice roll, the better the hit. For each pair of facts below, circle the one that would give a better hit.

a. 7 X 6 or 5 X 9

b. 3 X 8 or 5 X 5

c. 8 X 8 or 9 X 6

4) Show a multiplication strategy that can be used to solve this fact:
6 X 7 = ?

6 X 7 = _____

Unit 6 Review (continued)

5) You have 42 party favors and want to divide them equally among 7 bags. How many party favors do you put into each bag?

Unit

- Write a number model to fit the story.
  Use a letter to represent what you want to find out.
  You may complete the diagram below to help.
- Solve the number story.
- Write the number model with your answer to check that your answer makes the number model true.

Letter and what it represents: _____ for _____.

bags	party favors per bag	party favors in all

_____
(number model with letter)

Answer: _____
(unit)

_____
(number model with answer)

Unit 6 Review (continued)

6) Xavier and Violet solved this number sentence: 5 X (4 + 3) = ?
Xavier says the answer is 23, and Violet says the answer is 35. Who is correct? Explain.

_____

_____

_____

7) Camila used the order of operations to solve this number sentence.

8 + 2 X 7 = 22

Rules for the Order of Operations

1. Do operations inside parentheses first. Follow rules 2 and 3 when computing inside parentheses.
2. Then multiply or divide, in order, from left to right.
3. Finally add or subtract, in order, from left to right.

Explain Camila's steps for solving the number sentence.

_____

_____

Unit 6 Review (continued)

8) Solve.

Mr. Manning's class has 7 tables with 3 children at each table and a table with 5 children.

How many children are in Mr. Manning's class?

Number model: (7 X 3) + 5 = C

a. Solve the number story using any strategy. Show your work.

Answer: _____
(unit)

b. Explain how the number model fits the story.

_____

_____

_____

_____

Name: _____ Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 6 Challenge Review

1) Colin and Veronica subtracted to solve the problem below.

Colin's Work:

$$\begin{array}{r} 7\ 13 \\ \cancel{8}\ \cancel{3}\ 6 \\ -\ 3\ 7\ 2 \\ \hline 4\ 6\ 4 \end{array}$$

Veronica's Work:

$$\begin{array}{r} 8\ 3\ 6 \\ -\ 3\ 7\ 2 \\ \hline 5\ 4\ 4 \end{array}$$

Who got the correct answer? Who made a mistake?
Explain your thinking.

Unit 6 Challenge Review (continued)

2) Show how 8 X 9 can be solved using two different efficient multiplication strategies. Show your thinking with number sentences or words.
One way:

Another way:

3) Write a number story to fit this number sentence: D X 7 = 35.

B represents _____.

Number story:_____

_____

_____

_____

Solve your number story. Record your answer with units.

_____
(unit)

Name: _____ Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 6 Cumulative Review

1) Solve. You may draw a picture or a diagram.

The pet store has 7 fish in each fish tank.
There are 5 tanks. How many fish are there in all?

Answer: _____
(unit)

Number sentence: _____

2) Fill in the blanks.

Rule

in	out
3	15
4	20
6	30
7	35

Rule
÷ 3

in	out
6	
	3
15	
24	
	9

Unit 6 Cumulative Review (continued)

3) Fill in the blanks.

a. 8 = 8 X _____

b. 7 X _____ = 0

c. _____ X 1 = 5

d. _____ X 4 = 4 X 7

4) Emma was playing *Salute!* and saw 6 on her partner's forehead. The Dealer said 24.

What is the card on Emma's forehead? _____

How do you know? _____

_____

_____

5) Fill in the blanks.

a. 8
X 8

b. 6
X 6

c. 5 X 5 = _____

d. 4 X 4 = _____

e. How are the facts in Problems 5a-5d alike?

_____

_____

_____

Unit 6 Cumulative Review (continued)

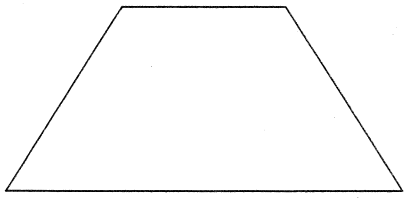
6) Fill in the blanks.

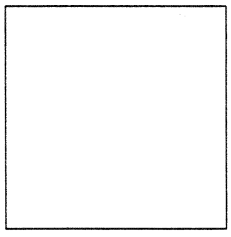
a. 50 ÷ 5 = _____ b. 5 = _____ ÷ 5

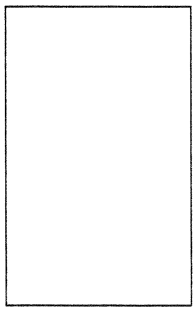
c. 8 = 16 ÷_____ d. 20 ÷ _____ = 5

7) Draw a picture and use words to explain why 3 X 4 = 4 X 3.

8) a. Write a name for each quadrilateral.



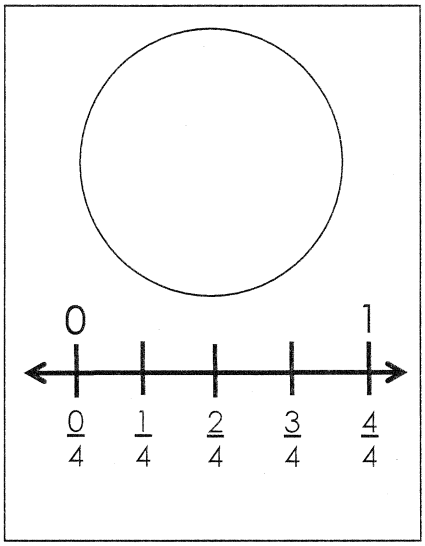




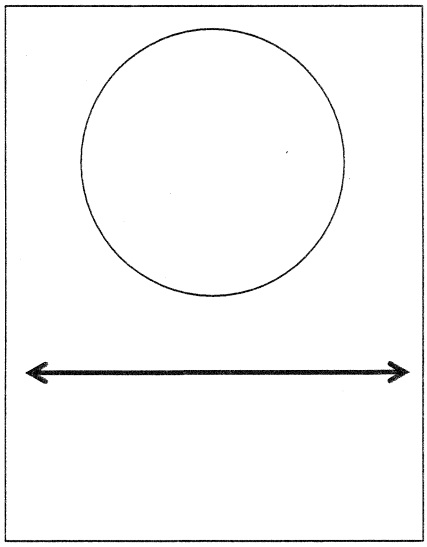
_____ _____ _____

b. Circle one of the shapes.
Write a different name for that shape. _____

9) a. Shade the circle on this fraction card to show $\frac{1}{4}$.



b. On this fraction card, partition and shade the circle to show a fraction that is equivalent to ¼ but with a different denominator. You may use your fraction cards to help.



Name the fraction: _____

c. How do you know the fractions are equivalent?

_____

_____

Unit 6 Cumulative Review (continued)

10) a. The mass of a soccer ball is about 425 grams.
The mass of a softball is about 184 grams.

About how many more grams is a soccer ball than a softball?

Estimate:_____

Answer: about _____
(unit)

b. Explain how you know your answer makes sense.

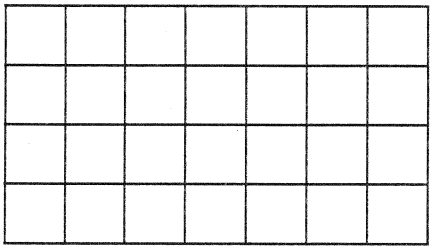
_____

_____

_____

_____

11) You draw this card in *The Area and Perimeter Game*:



This is a 7-by-4 rectangle.

Find the area and the perimeter.

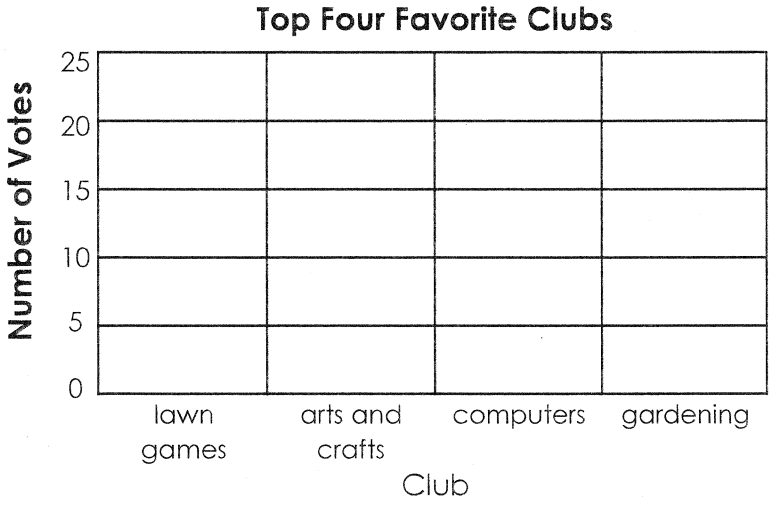
Area: _____ square units

Perimeter: _____ units

Unit 6 Cumulative Review (continued)

12) Fill in the bar graph for the top four clubs picked by third graders at Washington School.

Club	Number of Votes
lawn games	25
arts and crafts	15
computers	25
gardening	5



b. How many more votes did computers get than arts and crafts?

_____

c. How many votes are there in all? _____

d. Compare the number of votes for lawn games to the number of votes for arts and crafts and gardening together.
How many more votes were for arts and crafts and gardening together than for lawn games?

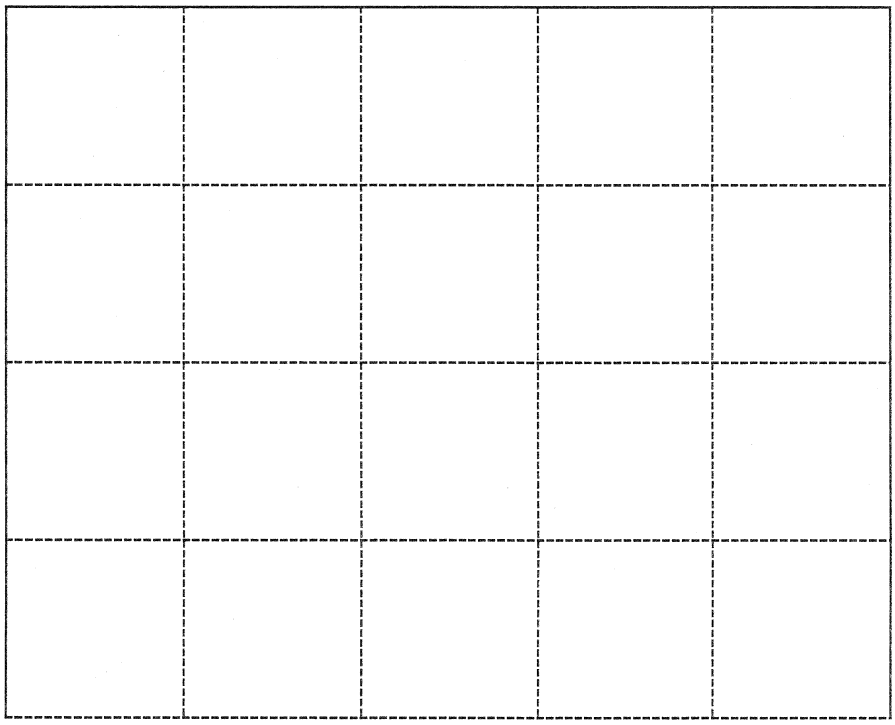
_____

Unit 6 Cumulative Review (continued)

13) Measure the length of the line segment to the nearest half inch and nearest centimeter.

about _____ inches about _____ centimeters

14) Measure the side lengths of this rectangle to the nearest inch and label them.



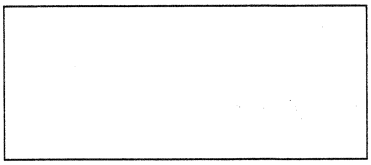
This is a _____ by _____ rectangle.
(unit) (unit)

Area: _____ square inches

Number model: _____

Unit 6 Cumulative Review (continued)

15) Circle all the names for this shape.



square	triangle	quadrangle
rhombus	parallelogram	rectangle

16) Solve each fact. Write another fact next to each using the turn-around rule.

a. _____ = 3 X 4 _____

b. 2 X 9 = _____ _____

c. 10
X 4
_____

d. 5
X 6
_____

Name: *ANSWER KEY* Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 6 Review: More Operations

1) Nolan used doubling to solve 6 X 8.
This is what he did:

	8
6	3 — 3 X 8 = 24
	3 — 3 X 8 = 24

6 X 8 = 3 X 8 + 3 X 8
6 X 8 = 24 + 24
6 X 8 = 48

a. Explain Nolan's work.

Possible answer: Nolan broke 6 into 3 and 3. He multiplied 3 X 8 and got 24. Then he doubled 24 to get 48.

b. Use doubling to solve 5 X 8.
Draw a picture and write number models.
You may use Nolan's work to help.

	8	
6	4 4 X 6 = 24	4 4 X 6 = 24

6 X 8 = 4 X 6 + 4 X 6
6 X 8 = 24 + 24
6 X 8 = 48

Unit 6 Review (continued) *ANSWER KEY*

2) Fill in the unit box. Then solve.

Unit
Answers will vary

a.
$$\begin{array}{r} {}^{5}\cancel{6}\ {}^{11}\cancel{2}\ {}^{1}4 \\ -\ 2\ 3\ 9 \\ \hline 3\ 8\ 5 \end{array}$$

b. 421 – 349 = 72

3) In Baseball Multiplication, the greater the product from the dice roll, the better the hit. For each pair of facts below, circle the one that would give a better hit.

a. 7 X 6 or (5 X 9)

b. 3 X 8 or (5 X 5)

c. (8 X 8) or 9 X 6

4) Show a multiplication strategy that can be used to solve this fact:
6 X 7 = ?

Strategies will vary.

6 X 7 = 42

Unit 6 Review (continued) *ANSWER KEY*

5) You have 42 party favors and want to divide them equally among 7 bags. How many party favors do you put into each bag?

Unit
party favors

- Write a number model to fit the story.
  Use a letter to represent what you want to find out.
  You may complete the diagram below to help.
- Solve the number story.
- Write the number model with your answer to check that your answer makes the number model true.

Letter and what it represents: P for party favors.

bags	party favors per bag	party favors in all
7	?	42

Possible answers: 42 ÷ 7 = P; 7 X P = 42
(number model with letter)

Answer: 6 party favors
(unit)

Possible answers: 42 ÷ 7 = 6; 7 X 6 = 42
(number model with answer)

Unit 6 Review (continued) *ANSWER KEY*

6) Xavier and Violet solved this number sentence: 5 X (4 + 3) = ?
Xavier says the answer is 23, and Violet says the answer is 35. Who is correct? Explain.

Possible answer: Violet is correct. The parentheses mean that 4 + 3 should be done first. So 4 + 3 = 7 and 5 X 7 = 35.

7) Camila used the order of operations to solve this number sentence.

8 + 2 X 7 = 22

Rules for the Order of Operations

1. Do operations inside parentheses first. Follow rules 2 and 3 when computing inside parentheses.
2. Then multiply or divide, in order, from left to right.
3. Finally add or subtract, in order, from left to right.

Explain Camila's steps for solving the number sentence.

Possible answer: First Camila solved 2 X 7 and got 14. Then she added 8 to 14 and got 22.

Unit 6 Review (continued) *ANSWER KEY*

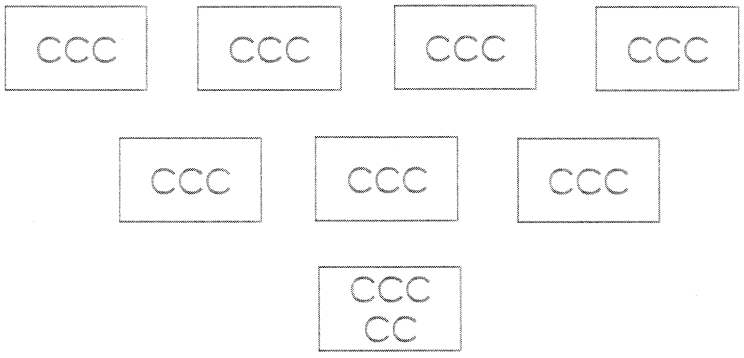
8) Solve.

Mr. Manning's class has 7 tables with 3 children at each table and a table with 5 children.

How many children are in Mr. Manning's class?

Number model: (7 X 3) + 5 = C

a. Solve the number story using any strategy. Show your work.



7 X 3 = 21
21 + 5 = 26

Answer: 26 children
(unit)

b. Explain how the number model fits the story.

Possible answer: 7 X 3 shows 3 children each sitting at 7 tables. The + 5 shows the number of other children in the class. 21 + 5 = 26. There are 26 children altogether in the class.

Name: *ANSWER KEY* Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 6 Challenge Review

1) Colin and Veronica subtracted to solve the problem below.

Colin's Work:

$$\begin{array}{r} {}^{7}\not{8}\ {}^{13}\not{3}\ 6 \\ -\ 3\ 7\ 2 \\ \hline 4\ 6\ 4 \end{array}$$

Veronica's Work:

$$\begin{array}{r} 8\ 3\ 6 \\ -\ 3\ 7\ 2 \\ \hline 5\ 4\ 4 \end{array}$$

Who got the correct answer? Who made a mistake?
Explain your thinking.

Possible answer: Colin is correct because he traded 1 hundred for 10 tens. He changed 8 hundreds to 7 hundreds and 3 tens to 13 tens. Then he could subtract to get 464. Veronica made a mistake because she did not trade. She cannot subtract 7 tens from 3 tens to get 4 tens.

Unit 6 Challenge Review (continued) *ANSWER KEY*

2) Show how 8 X 9 can be solved using two different efficient multiplication strategies. Show your thinking with number sentences or words.
One way:

Possible answer: I used 8 X 10 = 80 as my helper fact and subtracted a group of 8. So 8 X 9 = 80 – 8 = 72.

Another way:

Possible answer: I used doubling. 4 X 9 = 36, so 8 X 9 = 36 + 36 = 72.

3) Write a number story to fit this number sentence: D X 7 = 35.

D represents Answers will vary.

Number story:

Possible answer: Karla has 7 doll houses. She wants to put the same number of dolls in each house. She has 35 dolls in all. How many dolls in each house?

Solve your number story. Record your answer with units.

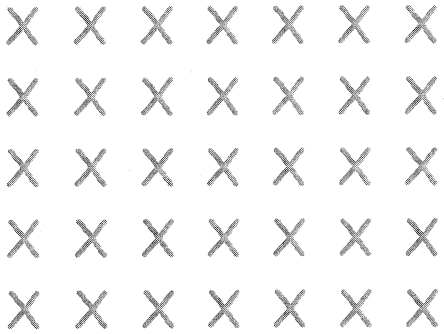
Possible answer: 5 dolls
(unit)

Name: *ANSWER KEY* Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 6 Cumulative Review

1) Solve. You may draw a picture or a diagram.

The pet store has 7 fish in each fish tank.
There are 5 tanks. How many fish are there in all?



Answer: 35 fish
(unit)

Number sentence: 7 X 5 = 35

2) Fill in the blanks.

Rule
X 5

in	out
3	15
4	20
6	30
7	35
5	25

Rule
÷ 3

in	out
6	2
9	3
15	5
24	8
27	9

Unit 6 Cumulative Review (continued) *ANSWER KEY*

3) Fill in the blanks.

a. 8 = 8 X 1

b. 7 X 0 = 0

c. 5 X 1 = 5

d. 7 X 4 = 4 X 7

4) Emma was playing *Salute!* and saw 6 on her partner's forehead. The Dealer said 24.

What is the card on Emma's forehead? 4

How do you know?

Possible answer: I thought 6 X what number is 24 and knew it was 4. I knew that 24 ÷ 6 = 4.

5) Fill in the blanks.

a. 8
X 8
64

b. 6
X 6
36

c. 5 X 5 = 25

d. 4 X 4 = 16

e. How are the facts in Problems 5a-5d alike?

Possible answer: They all make square arrays. Each fact has 2 of the same factor.

Unit 6 Cumulative Review (continued) *ANSWER KEY*

6) Fill in the blanks.

a. 50 ÷ 5 = 10

b. 5 = 25 ÷ 5

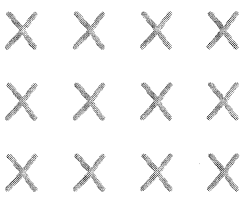
c. 8 = 16 ÷ 2

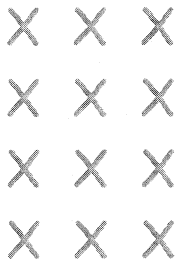
d. 20 ÷ 4 = 5

7) Draw a picture and use words to explain why 3 X 4 = 4 X 3.

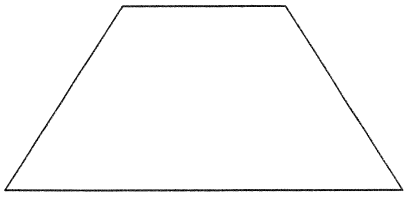
Possible answer: I can draw an array for 3 X 4 and another array for 4 X 3. If I turn one of the arrays, it will match the other.

I know that 3 X 4 is 12 and 4 X 3 is also 12 because of the turn-around rule.

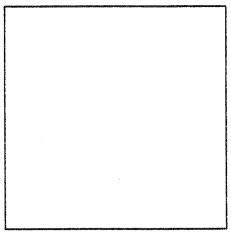




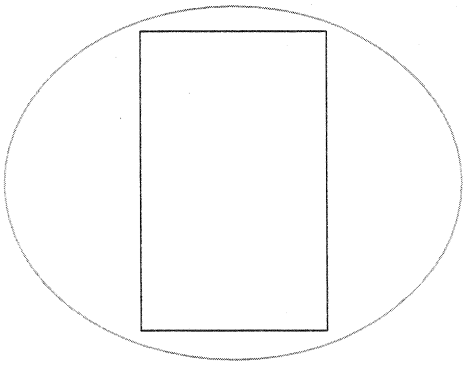
8) a. Write a name for each quadrilateral.



trapezoid



square

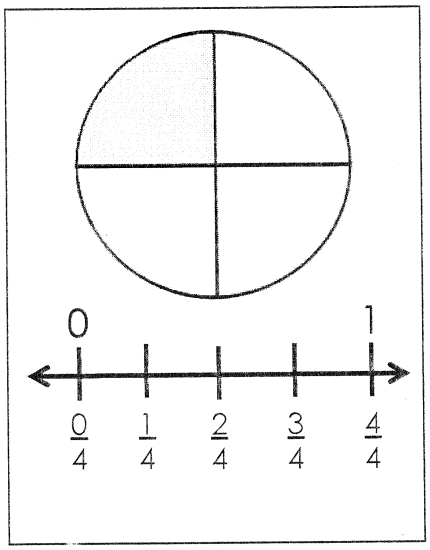


rectangle

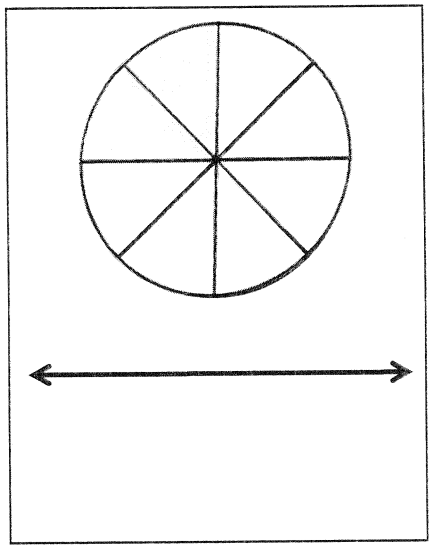
b. Circle one of the shapes. Answers will vary.
Write a different name for that shape. Possible answer: parallelogram

Unit 6 Cumulative Review (continued) *ANSWER KEY*

9) a. Shade the circle on this fraction card to show $\frac{1}{4}$.



b. On this fraction card, partition and shade the circle to show a fraction that is equivalent to ¼ but with a different denominator. You may use your fraction cards to help.



Possible answer

Other possible fractions:

$\frac{3}{12}$ $\frac{4}{16}$ $\frac{5}{20}$ $\frac{10}{40}$

Name the fraction: Possible answer: $\frac{2}{8}$

c. How do you know the fractions are equivalent?

Possible answer: The shaded area of each circle is the same size.

Unit 6 Cumulative Review (continued) *ANSWER KEY*

10) a. The mass of a soccer ball is about 425 grams.
The mass of a softball is about 184 grams.

About how many more grams is a soccer ball than a softball?

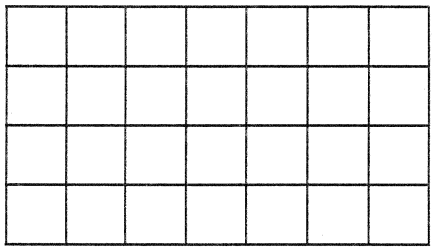
Estimate: 400 – 200 = 200 or 430 – 180 = 250

Answer: about 241 grams
(unit)

b. Explain how you know your answer makes sense.

Possible answer: I knew the answer had to be less than 425 grams because I subtracted. I added 241 to 184 grams and got 425, so I know my answer is correct.

11) You draw this card in *The Area and Perimeter Game*:



This is a 7-by-4 rectangle.

Find the area and the perimeter.

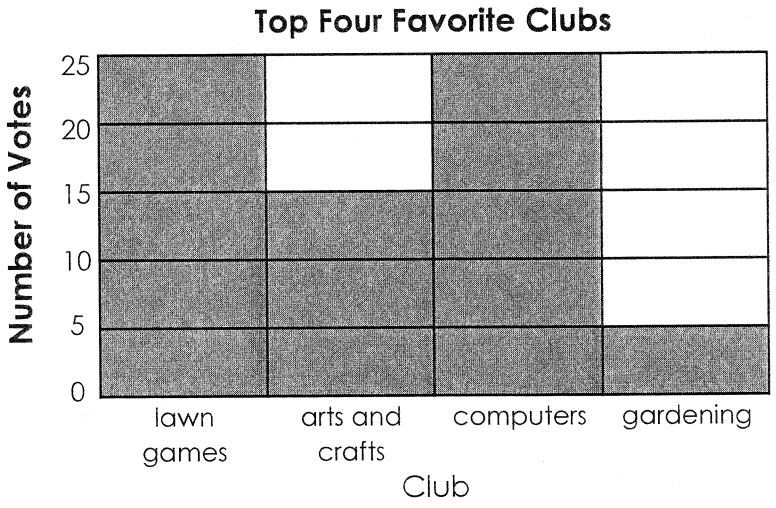
Area: 28 square units

Perimeter: 22 units

Unit 6 Cumulative Review (continued) *ANSWER KEY*

12) Fill in the bar graph for the top four clubs picked by third graders at Washington School.

Club	Number of Votes
lawn games	25
arts and crafts	15
computers	25
gardening	5



b. How many more votes did computers get than arts and crafts?

10 votes

c. How many votes are there in all? 70 votes

d. Compare the number of votes for lawn games to the number of votes for arts and crafts and gardening together.
How many more votes were for arts and crafts and gardening together than for lawn games?

5 votes

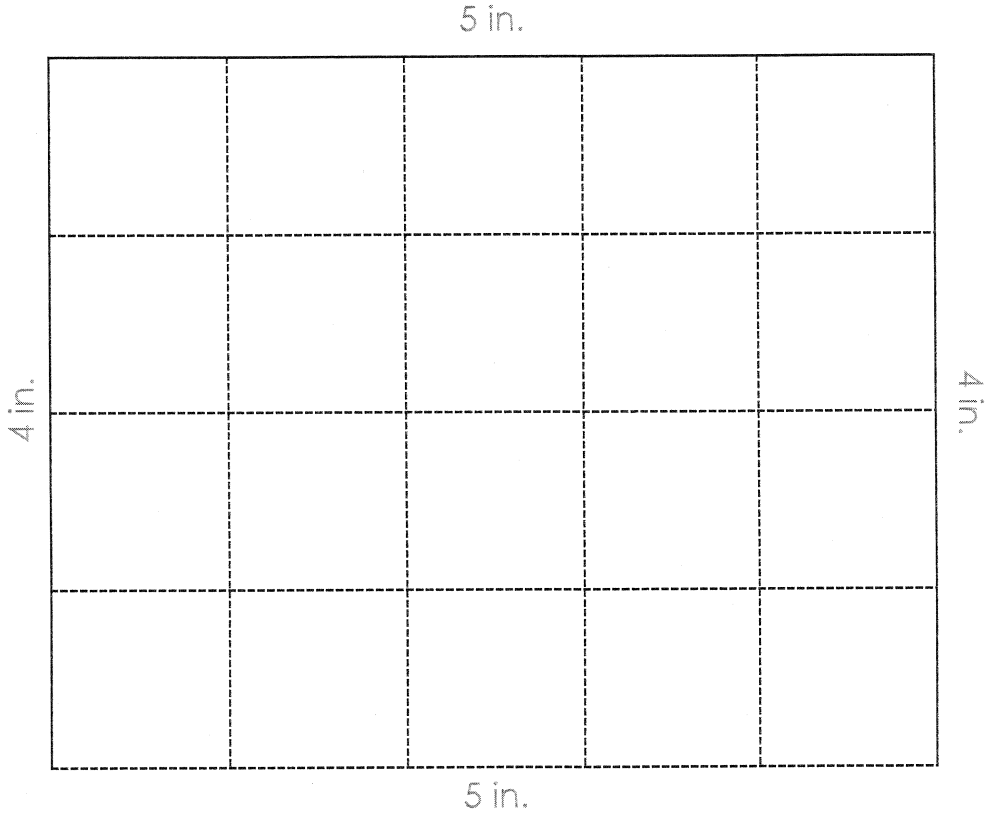
Unit 6 Cumulative Review (continued) *ANSWER KEY*

13) Measure the length of the line segment to the nearest half inch and nearest centimeter.

*Please Note: Individual printer/copier settings may alter the actual measurement. Please check your copy before referring to the answer key.

about 4 ½ inches about 11 centimeters

14) Measure the side lengths of this rectangle to the nearest inch and label them.



This is a 5 in (unit) by 4 in (unit) rectangle.

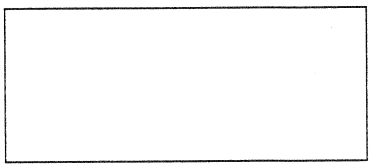
Area: 20 square inches

Number model: 5 X 4 = 20

*Please Note: Individual printer/copier settings may alter the actual measurement. Please check your copy before referring to the answer key.

Unit 6 Cumulative Review (continued) *ANSWER KEY*

15) Circle all the names for this shape.



square triangle quadrangle

rhombus parallelogram rectangle

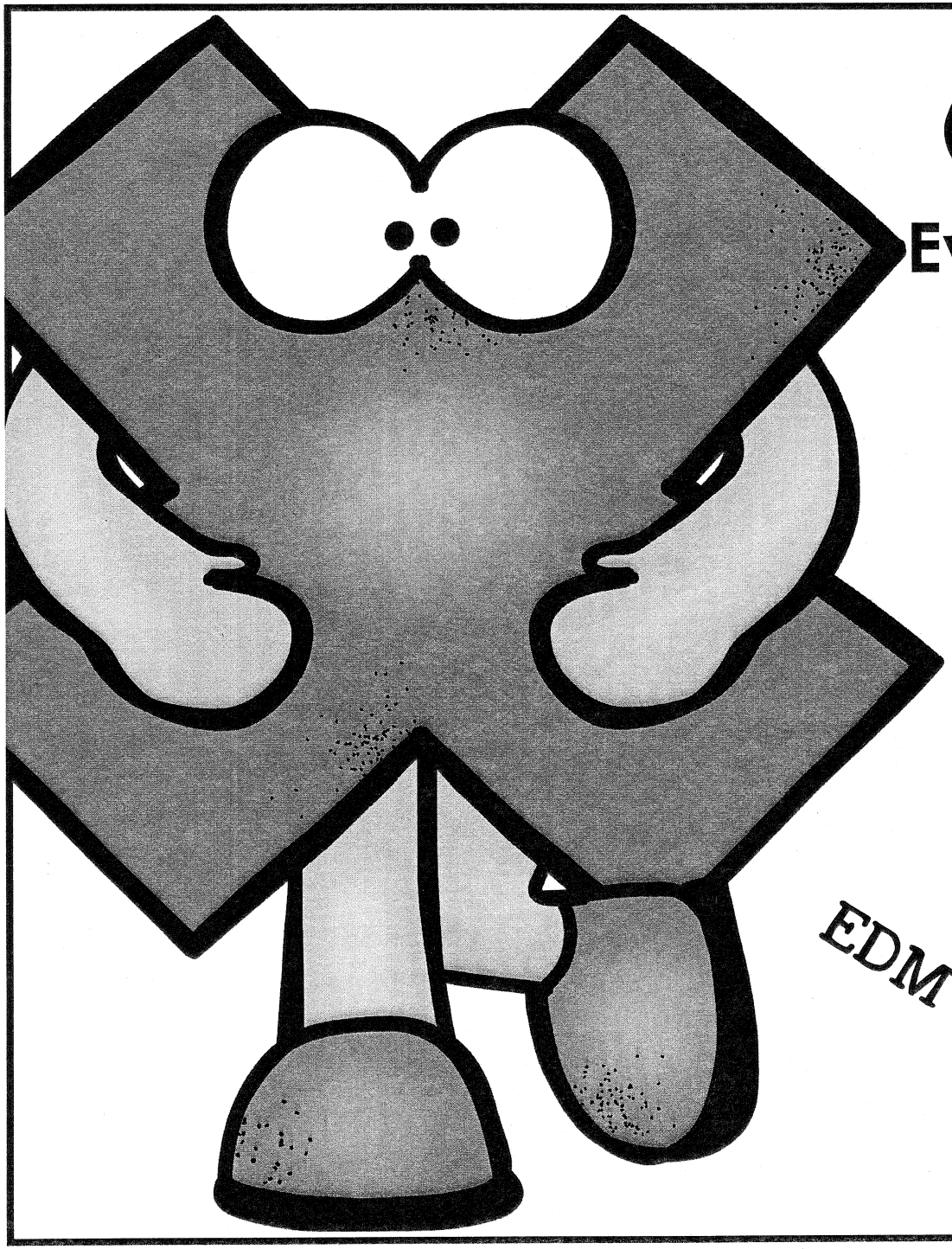
16) Solve each fact. Write another fact next to each using the turn-around rule.

a. 12 = 3 X 4 4 X 3 = 12

b. 2 X 9 = 18 9 X 2 = 18

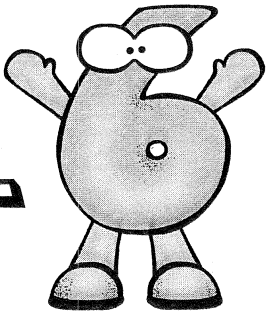
c. 10
X 4
40 4 X 10 = 40

d. 5
X 6
30 6 X 5 = 30



Grade 3

Everyday Math:



Unit 2

More Operations

Study Guide

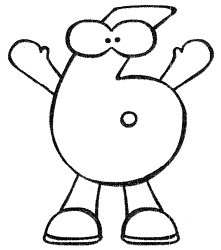
EDM Version 4

Abc123 is 4 me

Name: _____ Test Date: ___ - ___ - ___

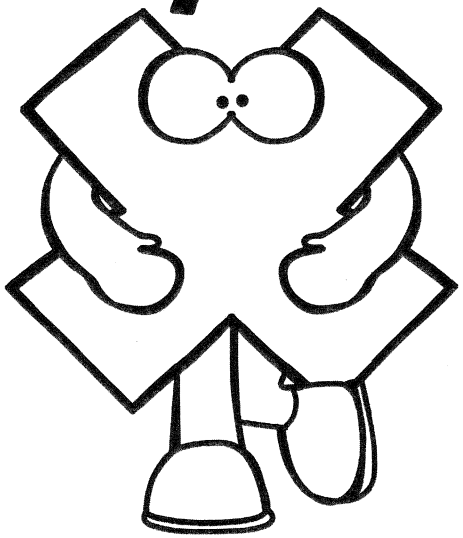
Grade 3

Everyday Math: Unit



More Operations

Study Guide



Unit Vocabulary:

appropriate, efficient, equation, fact power, multiplication/division diagram, order of operations, parentheses, trade-first subtraction

Lesson 6.1:

How do you use the trade-first method to solve subtraction problems?

Fill in the unit box. Then solve.

Unit

a.
$$\begin{array}{r} 642 \\ -247 \\ \hline \end{array}$$

b. 441 – 269 = _____

Lesson 6.2:

Why is increasing your multiplication fact fluency important?

In *Baseball Multiplication*, the greater the product from the dice roll, the better the hit.

For each pair of facts below, circle the one that would give a better hit.

a. 5 x 5 **or** 4 x 7

b. 8 x 8 **or** 7 x 9

c. 4 x 2 **or** 7 x 1

Lesson 6.3:

How do you use square products as helper facts to find the products of near squares?

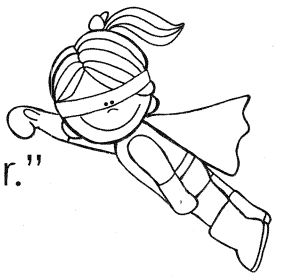
Show a multiplication strategy that can be used to solve this fact:

9 x 4 = ?

9 x 4 = _____

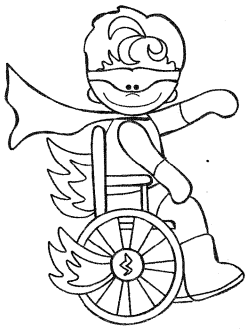
Lesson 6.4:

How can you use your multiplication strategies to improve your fact fluency?



In the boxes below, record three facts for which you have "fact power."

Record one fact that you are still practicing or you think might be challenging for someone else. Show how you can figure it out efficiently.

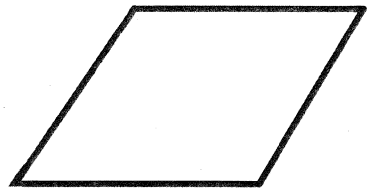


Lesson 6.5:

Exploration A: How do you construct quadrilaterals to match written descriptions?

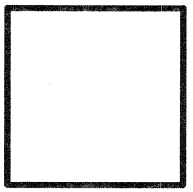
This shape is a:

a. rhombus
b. square
c. both



This shape is a:

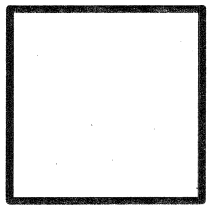
a. parallelogram
b. rhombus
c. both

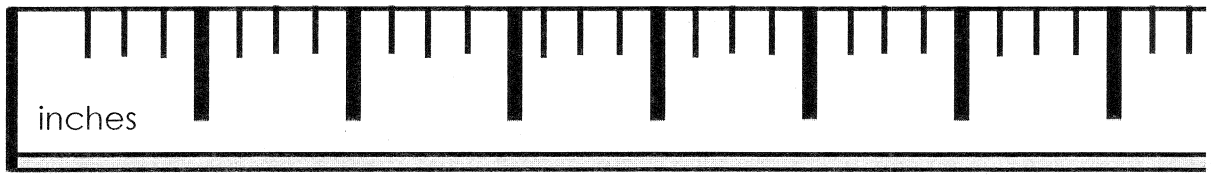


Exploration B: How do you measure to the nearest ½ inch?
Find the measurement of the line below to the nearest ½ inch.

_____ inches

Exploration C: How do you calculate the perimeter of a polygon?





Perimeter: _____ inches Distance traveled: _____
(unit)

Lesson 6.6:

How do you use multiplication/division diagrams to make sense of and solve number stories?

You have 54 gumballs and want to divide them equally among 6 small bags. How may gumballs do you put in each bag?

- Write a number model to fit the story. Use a letter to represent what you want to find out. You may complete the diagram below to help.
- Solve the number story
- Write the number model with your answer to check that your answer makes the number model true.

Letter and what it represents: _____ for _____.

bags	gumballs per bag	gumballs in all

_____
(number model with letter)

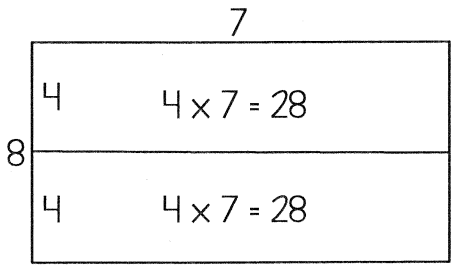
Answer: _____
(unit)

_____
(number model with answer)

Lesson 6.7:

How can you use multiplication strategies to multiply larger factors?

Kate used doubling to solve 8 x 7.
This is what she did:



$8 \times 7 = 4 \times 7 + 4 \times 7$
$8 \times 7 = 28 + 28$
$8 \times 7 = 56$

a. Explain Kate's work.

_____

_____

_____

b. Use doubling to solve 3 x 6.
Draw a picture and write number models.
You may use Kate's work to help.

Lesson 6.8:

How do you use parentheses in number sentences?

Lilly and Fran solved this number sentence: $4 \times (5 + 3) = ?$
Lilly says the answer is 23, and Fran says the answer is 32.
Who is correct? Explain.

Lesson 6.9:

How do you write a two-step number story to fit a number sentence?

Write a number story to fit this number sentence.

$15 - (5 \times 2) = 5$

Lesson 6.10:

How do you apply the order of operations to solve multistep problems?

Stephen used the order of operations to solve this number sentence.

4 + 5 x 5 = 29

Rules for the Order of Operations

1. Do operations inside parentheses first. Follow rules 2 and 3 when computing inside parentheses.
2. Then multiply or divide, in order, from left to right.
3. Finally add or subtract, in order, from left to right.

Explain Stephen's steps for solving the number sentence.

Lesson 6.11:

How do you solve two-step number stories and represent them with equations?

Solve.

Mr. Roger's class has 7 tables with 4 children at each table and a table with 2 children. How many children are in Mr. Roger's class?

Number model: $(7 \times 4) + 2 = C$

a. Solve the number story using any strategy. Show your work.

Answer: _____
(unit)

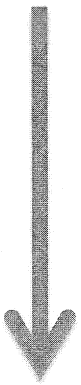
b. Explain how the number model fits the story.

_____

_____

_____

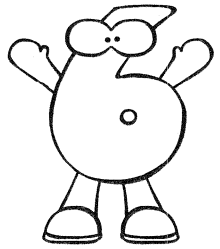
ANSWER KEY



Name: Answer Key Test Date: ___ - ___ - ___

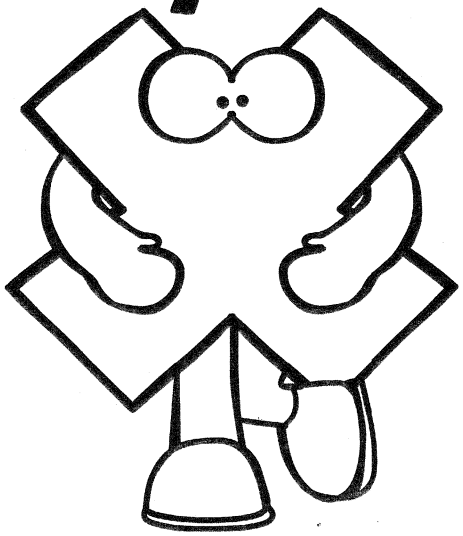
Grade 3

Everyday Math: Unit



More Operations

Study Guide



Unit Vocabulary:

appropriate, efficient, equation, fact power, multiplication/division diagram, order of operations, parentheses, trade-first subtraction

Lesson 6.1:

How do you use the trade-first method to solve subtraction problems?

Fill in the unit box. Then solve.

Unit
Answers will vary

a.
$$\begin{array}{r} 642 \\ -247 \\ \hline 395 \end{array}$$

b. 441 – 269 = 172

Lesson 6.2:

Why is increasing your multiplication fact fluency important?

In *Baseball Multiplication*, the greater the product from the dice roll, the better the hit.

For each pair of facts below, circle the one that would give a better hit.

a. 5 x 5 **or** (4 x 7)

b. (8 x 8) **or** 7 x 9

c. (4 x 2) **or** 7 x 1

Lesson 6.3:

How do you use square products as helper facts to find the products of near squares?

Show a multiplication strategy that can be used to solve this fact:

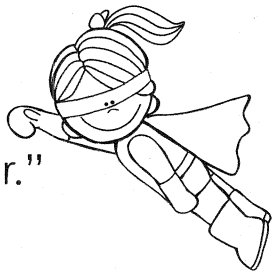
9 x 4 = ?

Strategies vary

9 x 4 = 36

Lesson 6.4:

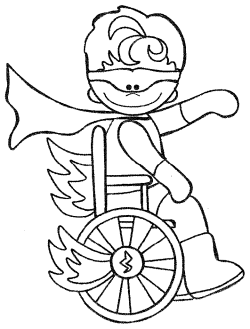
How can you use your multiplication strategies to improve your fact fluency?



In the boxes below, record three facts for which you have "fact power."

	Answers will vary	

Record one fact that you are still practicing or you think might be challenging for someone else. Show how you can figure it out efficiently.



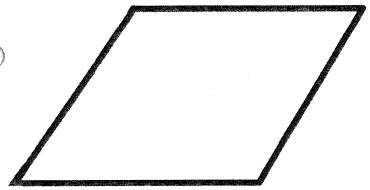
Answers will vary

Lesson 6.5:

Exploration A: How do you construct quadrilaterals to match written descriptions?

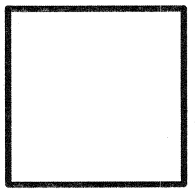
This shape is a:

a. rhombus
b. square
c. both



This shape is a:

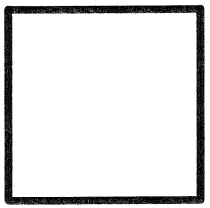
a. parallelogram
b. rhombus
c. both

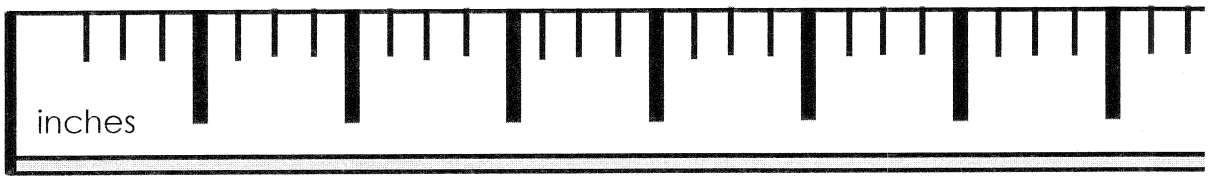


Exploration B: How do you measure to the nearest ½ inch?
Find the measurement of the line below to the nearest ½ inch.

5 1/2 inches

Exploration C: How do you calculate the perimeter of a polygon?





Perimeter: 4 inches Distance traveled: 4 inches
(unit)

Lesson 6.6:

How do you use multiplication/division diagrams to make sense of and solve number stories?

You have 54 gumballs and want to divide them equally among 6 small bags. How may gumballs do you put in each bag?

- Write a number model to fit the story. Use a letter to represent what you want to find out. You may complete the diagram below to help.
- Solve the number story
- Write the number model with your answer to check that your answer makes the number model true.

Letter and what it represents: G for gumballs per bag.

bags	gumballs per bag	gumballs in all
6	G	54

$54 \div 6 = G$ OR $6 \times G = 54$

(number model with letter)

Answer: 9 gumballs

(unit)

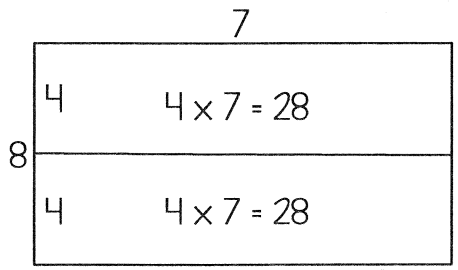
$54 \div 6 = 9$ OR $6 \times 9 = 54$

(number model with answer)

Lesson 6.7:

How can you use multiplication strategies to multiply larger factors?

Kate used doubling to solve 8 x 7.
This is what she did:

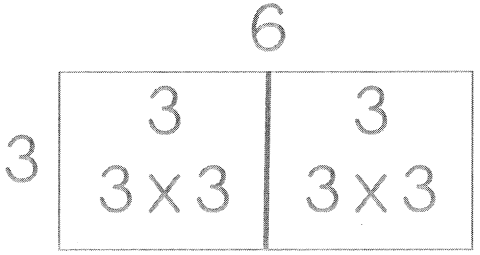


$8 \times 7 = 4 \times 7 + 4 \times 7$
$8 \times 7 = 28 + 28$
$8 \times 7 = 56$

a. Explain Kate's work.

Kate broke 8 into 4 and 4. She multiplied 4 x 7 and got 28.
Then she doubled 28 to get 56. 8 x 7= 56.

b. Use doubling to solve 3 x 6.
Draw a picture and write number models.
You may use Kate's work to help.



$3 \times 6 = 3 \times 3 + 3 \times 3$
$3 \times 6 = 9 + 9$
$3 \times 6 = 18$

Lesson 6.8:

How do you use parentheses in number sentences?

Lilly and Fran solved this number sentence: $4 \times (5 + 3) = ?$
Lilly says the answer is 23, and Fran says the answer is 32.
Who is correct? Explain.

Fran is correct. The parentheses mean that 5 + 3 should be done first. So 5 + 3 = 8 and 4 x 8 = 32.

Lesson 6.9:

How do you write a two-step number story to fit a number sentence?

Write a number story to fit this number sentence.

15 – (5 x 2) = 5

Answers Vary- Sample: Rita has 5 bags of marbles with 2 marbles in each bag. Her friend Bill want 15 marbles. How many more marbles does Rita need?

Lesson 6.10:

How do you apply the order of operations to solve multistep problems?

Stephen used the order of operations to solve this number sentence.

4 + 5 x 5 = 29

Rules for the Order of Operations

1. Do operations inside parentheses first. Follow rules 2 and 3 when computing inside parentheses.
2. Then multiply or divide, in order, from left to right.
3. Finally add or subtract, in order, from left to right.

Explain Stephen's steps for solving the number sentence.

First, Stephen solved 5 x 5 and got 25. Then he added 4 to 25 and got 29.

Lesson 6.11:

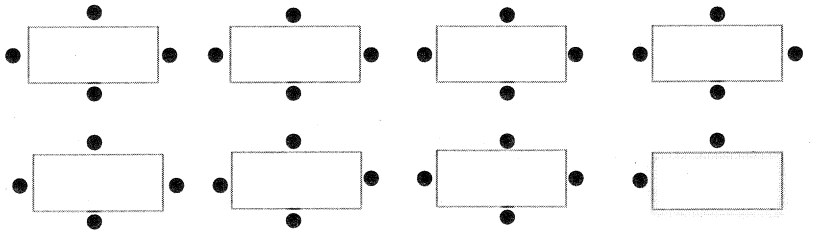
How do you solve two-step number stories and represent them with equations?

Solve.

Mr. Roger's class has 7 tables with 4 children at each table and a table with 2 children. How many children are in Mr. Roger's class?

Number model: (7 x 4) + 2 = C

a. Solve the number story using any strategy. Show your work.



7 x 4 = 28
28 + 2 = 30

Answer: 30 children
(unit)

b. Explain how the number model fits the story.

The 7 x 4 shows the number of children sitting at 7 tables.

The +2 shows the number of other children in the class.

Together there are 30 children in the class.