

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

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

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

$$\begin{aligned} 6 \times 8 &= 3 \times 8 + 3 \times 8 \\ 6 \times 8 &= 24 + 24 \\ 6 \times 8 &= 48 \end{aligned}$$

- a. Explain Nolan's work.

- b. Use doubling to solve 5×8 .
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. $421 - 349 = \underline{\hspace{2cm}}$

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. 7×6 or 5×9

b. 3×8 or 5×5

c. 8×8 or 9×6

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

$6 \times 7 = \underline{\hspace{2cm}}$

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: $5 \times (4 + 3) = ?$

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.

$$8 + 2 \times 7 = 22$$

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: $(7 \times 3) + 5 = C$

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:

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

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 8×9 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: $D \times 7 = 35$.

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
$\div 3$

in	out
6	
	3
15	
24	
	9

Unit 6 Cumulative Review (continued)

6) Fill in the blanks.

a. $50 \div 5 =$ _____

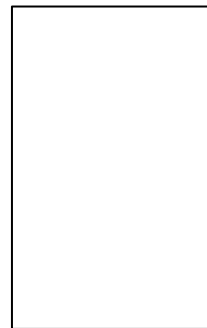
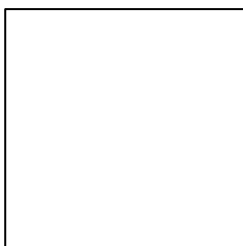
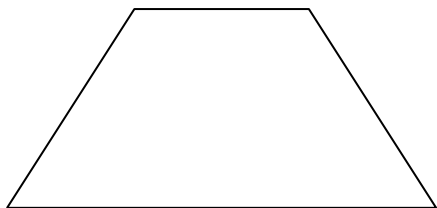
b. $5 =$ _____ $\div 5$

c. $8 = 16 \div$ _____

d. $20 \div$ _____ $= 5$

7) Draw a picture and use words to explain why $3 \times 4 = 4 \times 3$.

8) a. Write a name for each quadrilateral.

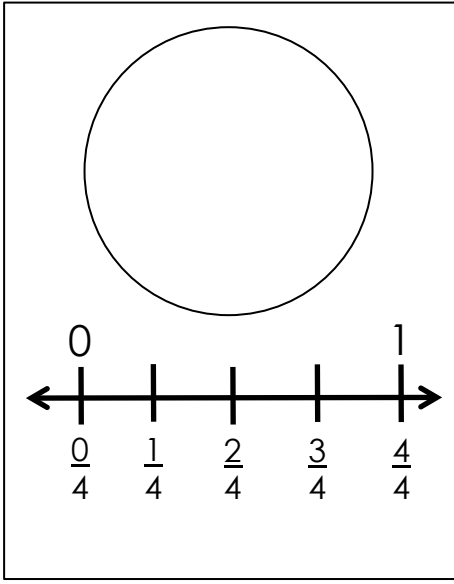


b. Circle one of the shapes.

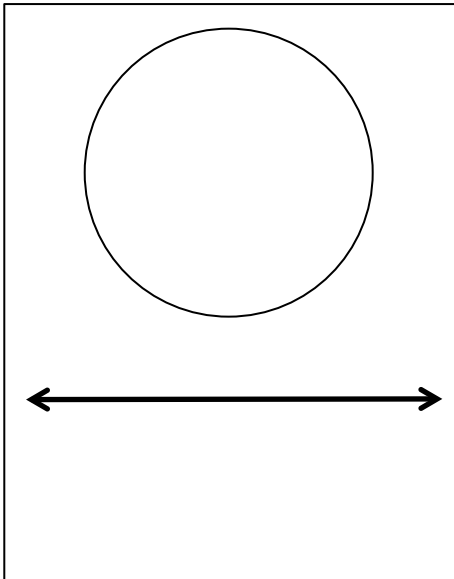
Write a different name for that shape. _____

Unit 6 Cumulative Review (continued)

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 $\frac{1}{4}$ 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.

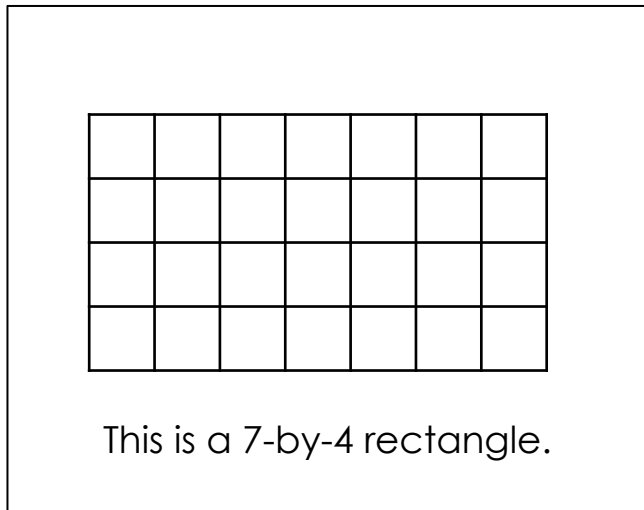
About how many more grams is a soccer ball than a softball?

Estimate: _____

Answer: about _____
(unit)

- b. Explain how you know your answer makes sense.

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



Find the area and the perimeter.

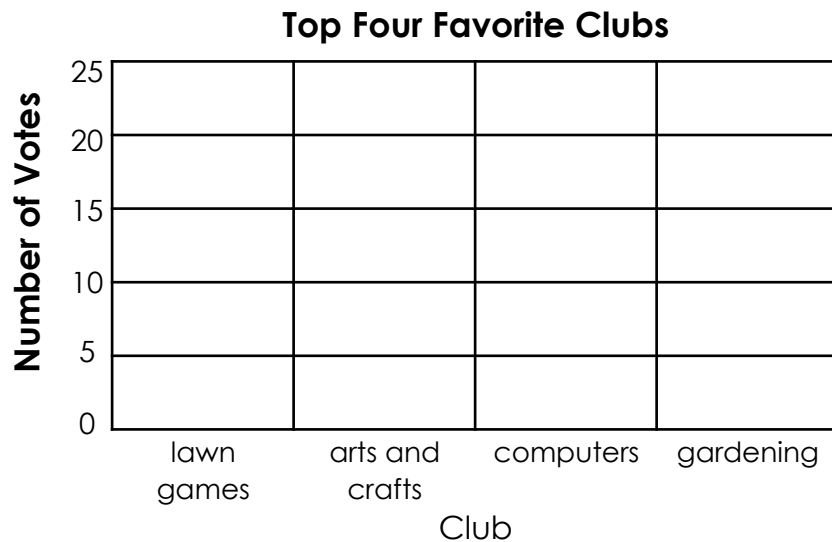
Area: _____ square units

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)

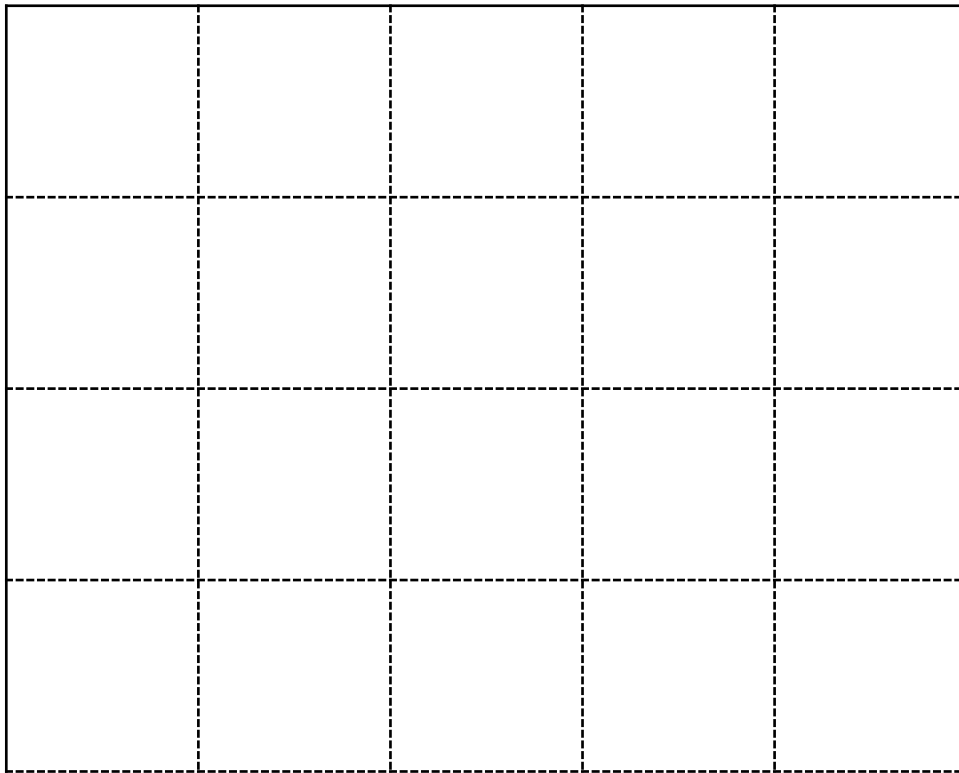
13) Measure the length of the line segment to the nearest half inch and nearest centimeter.



about _____ inches

about _____ centimeters

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



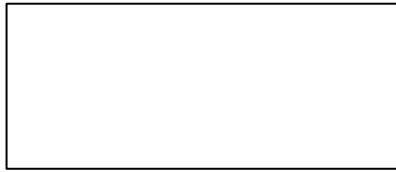
This is a _____ by _____ rectangle.
(unit) (unit)

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

EVERYDAY MATHEMATICS—3rd Grade

Unit 6 Review: More Operations

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

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

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

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

$$6 \times 8 = 48$$

- a. Explain Nolan's work.

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

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

	8	
5	4	$4 \times 5 =$
	4	$4 \times 5 =$
		20

$$5 \times 8 = 4 \times 5 + 4 \times 5$$

$$5 \times 8 = 20 + 20$$

$$5 \times 8 = 40$$

Unit 6 Review (continued)***ANSWER KEY***

2) Fill in the unit box. Then solve.

$$\begin{array}{r}
 \begin{array}{cccc}
 & 5 & 1 & 14 \\
 & \downarrow & \downarrow & \downarrow \\
 \cancel{6} & \cancel{2} & \cancel{4} & \\
 - & 2 & 3 & 9 \\
 \hline
 3 & 8 & 5 &
 \end{array}
 \end{array}$$

b. $421 - 349 = \underline{72}$

Unit

Answers will vary

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. 7×6 or 5×9

b. 3×8 or 5×5

c. 8×8 or 9×6

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

Strategies will vary.

$6 \times 7 = \underline{42}$

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?

- 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.

Unit
party favors

Letter and what it represents: P for party favors .

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

Possible answers: $42 \div 7 = P$; $7 \times P = 42$

(number model with letter)

Answer: 6 party favors
(unit)

Possible answers: $42 \div 7 = 6$; $7 \times 6 = 42$

(number model with answer)

Unit 6 Review (continued)***ANSWER KEY***

6) Xavier and Violet solved this number sentence: $5 \times (4 + 3) = ?$

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 $5 \times 7 = 35$.

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

$$8 + 2 \times 7 = 22$$

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 2×7 and got 14. Then she added 8 to 14 and got 22.

Unit 6 Review (continued)

ANSWER KEY

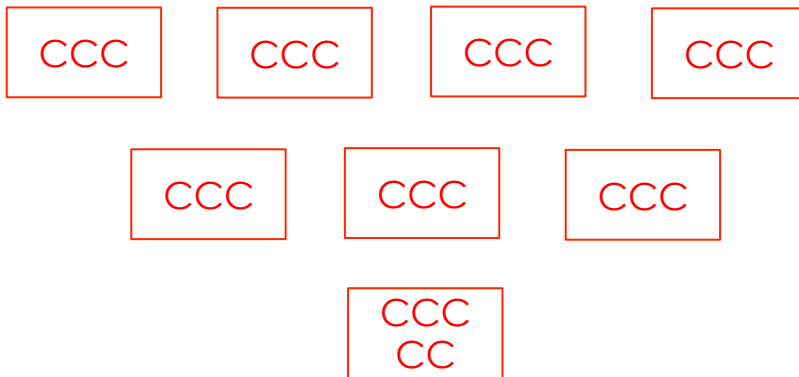
8) Solve.

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: $(7 \times 3) + 5 = C$

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



$$\begin{aligned} 7 \times 3 &= 21 \\ 21 + 5 &= 26 \end{aligned}$$

Answer: 26 children
(unit)

b. Explain how the number model fits the story.

Possible answer: 7×3 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.

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.

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 8×9 can be solved using two different efficient multiplication strategies. Show your thinking with number sentences or words.

One way:

Possible answer: I used $8 \times 10 = 80$ as my helper fact and subtracted a group of 8. So $8 \times 9 = 80 - 8 = 72$.

Another way:

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

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

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)

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. $8 = 8 \times \underline{1}$

b. $7 \times \underline{0} = 0$

c. $\underline{5} \times 1 = 5$

d. $\underline{7} \times 4 = 4 \times 7$

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 $6 \times$ what number is 24 and knew it was 4. I knew that

$24 \div 6 = 4.$

5) Fill in the blanks.

a.
$$\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$$

b.
$$\begin{array}{r} 6 \\ \times 6 \\ \hline 36 \end{array}$$

c. $5 \times 5 = \underline{25}$

d. $4 \times 4 = \underline{16}$

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. $50 \div 5 = \underline{10}$

b. $5 = \underline{25} \div 5$

c. $8 = 16 \div \underline{2}$

d. $20 \div \underline{4} = 5$

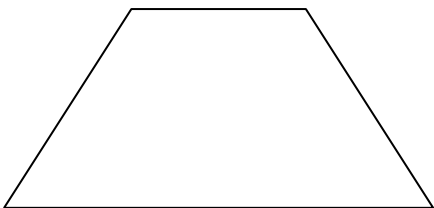
7) Draw a picture and use words to explain why $3 \times 4 = 4 \times 3$.

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

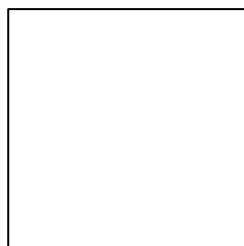
I know that 3×4 is 12 and 4×3 is also 12 because of the turn-around rule.



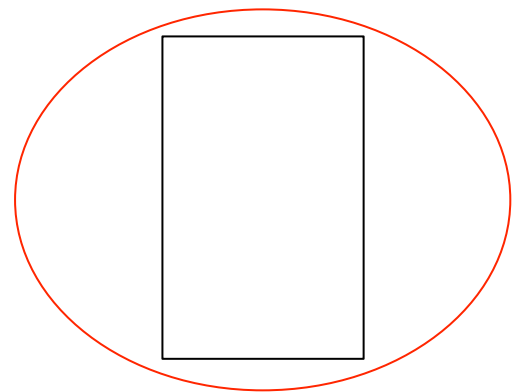
8) a. Write a name for each quadrilateral.



trapezoid



square



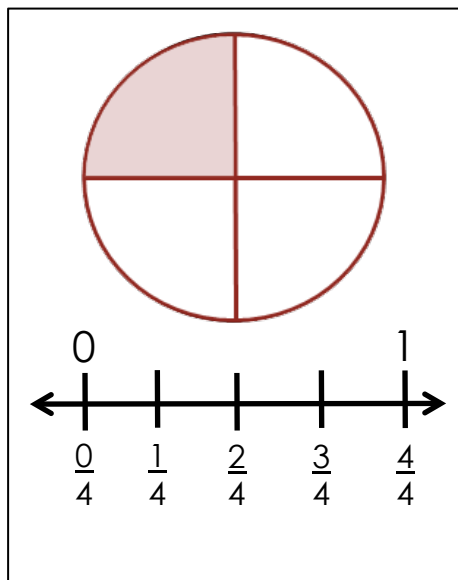
rectangle

b. Circle one of the shapes. **Answers will vary.**

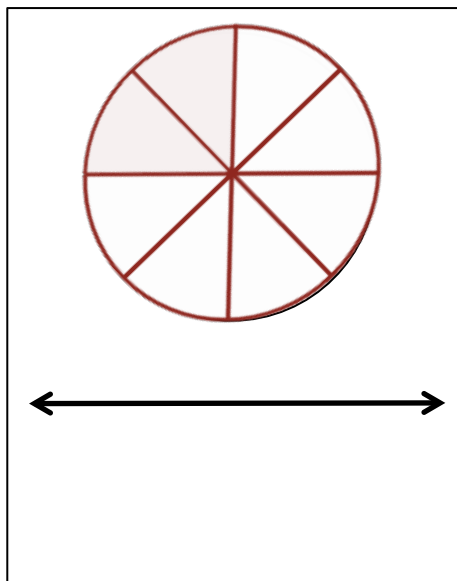
Write a different name for that shape. Possible answer: parallelogram

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 $\frac{1}{4}$ but with a different denominator. You may use your fraction cards to help.



Possible answer

Other possible fractions:

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

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?

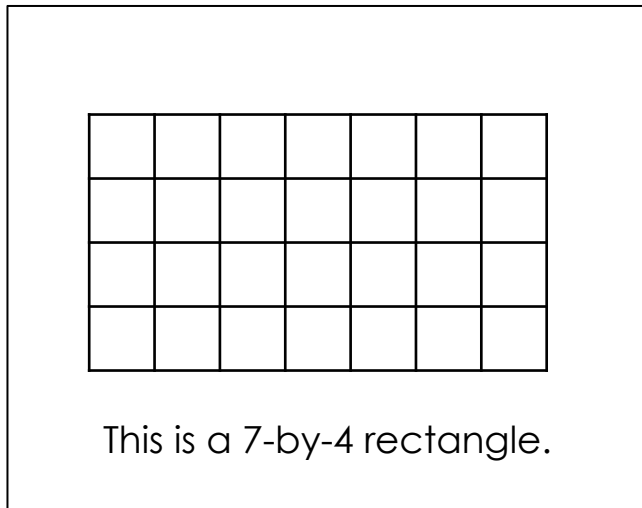
Estimate: $400 - 200 = 200$ or $430 - 180 = 250$

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*:



Find the area and the perimeter.

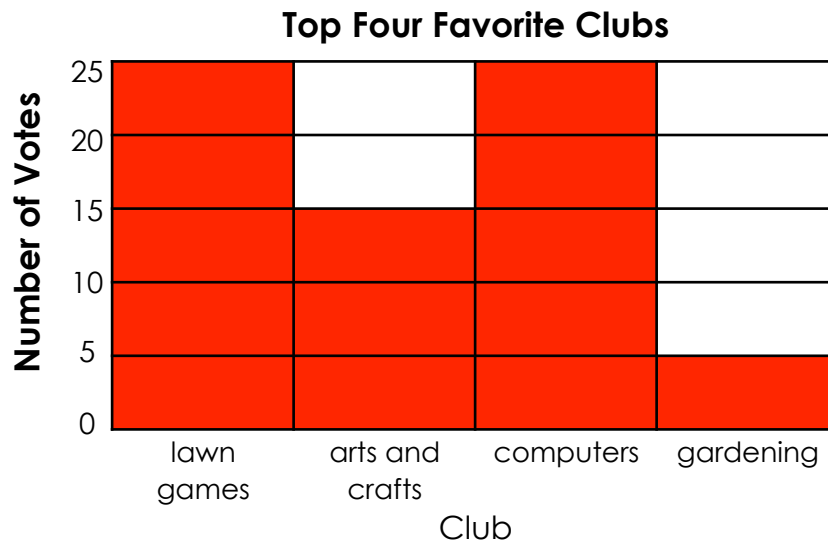
Area: 28 square units

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.

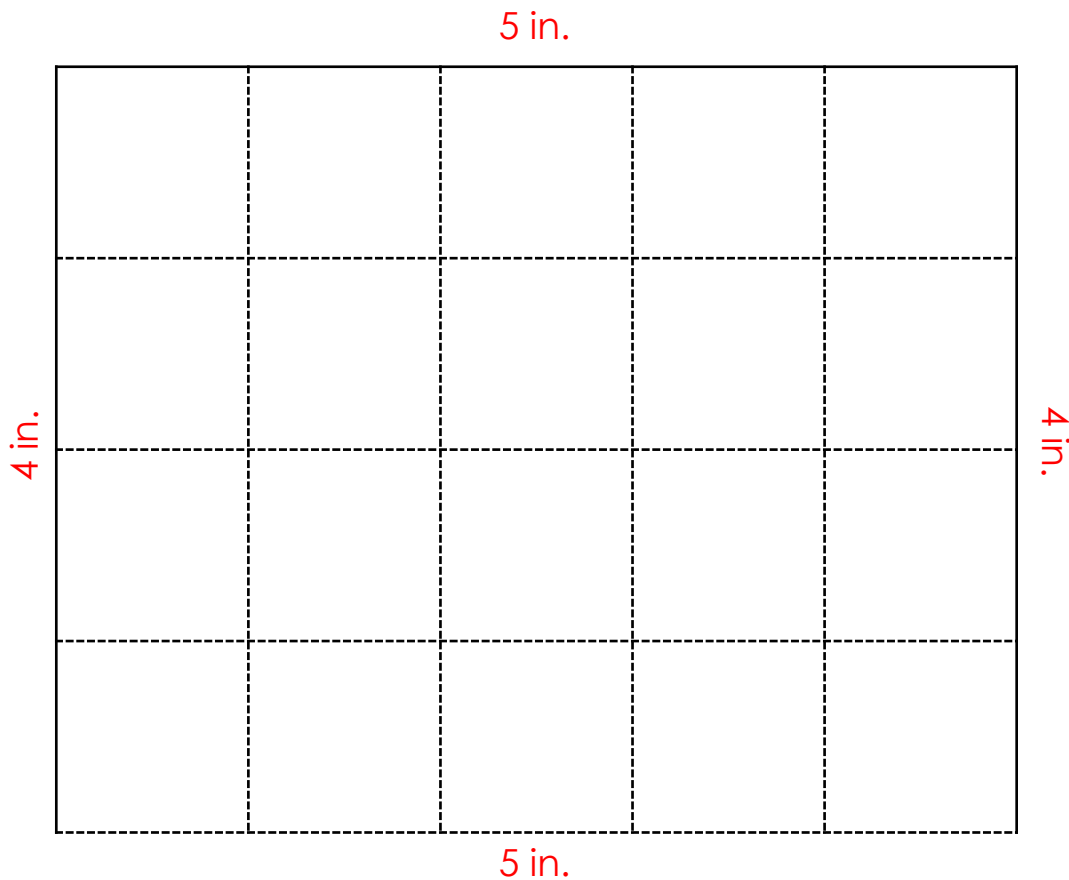


about $4\frac{1}{2}$ inches

about 11 centimeters

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

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



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

Area: 20 square inches

Number model: $5 \times 4 = 20$

*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. $\underline{\quad 12 \quad} = 3 \times 4$

$\underline{\quad 4 \times 3 = 12 \quad}$

b. $2 \times 9 = \underline{\quad 18 \quad}$

$\underline{\quad 9 \times 2 = 18 \quad}$

c. $\begin{array}{r} 10 \\ \times 4 \\ \hline 40 \end{array}$

$\underline{\quad 4 \times 10 = 40 \quad}$

d. $\begin{array}{r} 5 \\ \times 6 \\ \hline 30 \end{array}$

$\underline{\quad 6 \times 5 = 30 \quad}$