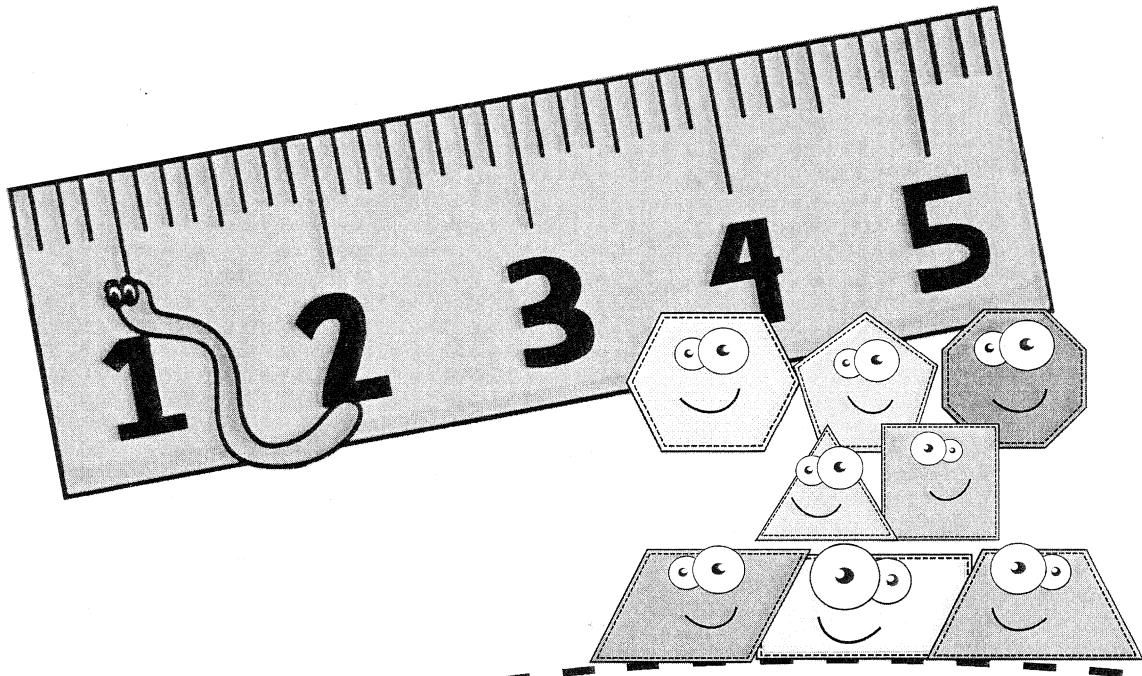


Unit 4

Study Guide

Measurement and Geometry



Name: _____ Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 4 Review: Geometry & Measurement

- 1) Measure the line segments to the nearest $\frac{1}{2}$ inch. Write the unit.

about: _____
(unit)

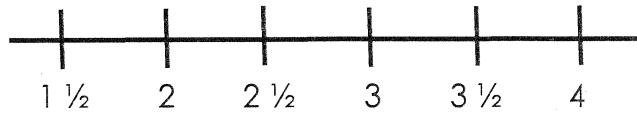
about: _____
(unit)

- 2) Use the data in the tally chart to make a line plot.

Use Xs to show the data on the line plot.

Lengths of Butterflies to the Nearest $\frac{1}{2}$ Inch	Number of Butterflies
1 $\frac{1}{2}$	///
2	/
2 $\frac{1}{2}$	///
3	//
3 $\frac{1}{2}$	///
4	/

Lengths of Butterflies to the Nearest $\frac{1}{2}$ Inch

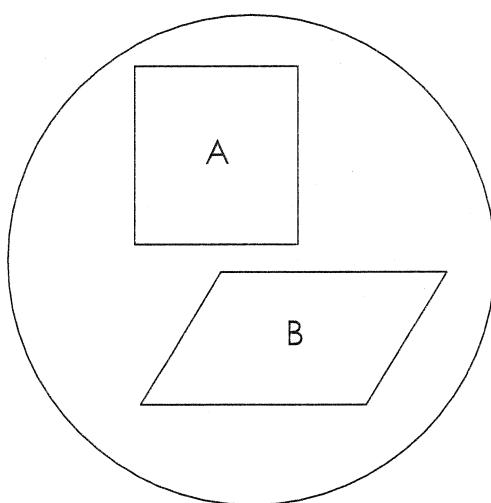


Length in Inches

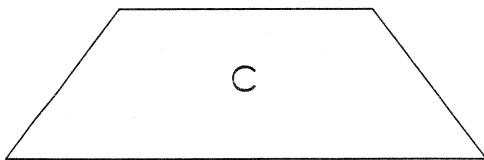
Unit 4 Review (continued)

- 3) Daryl is playing What's My Polygon Rule?.
He places his polygons this way:

Fits the Rule

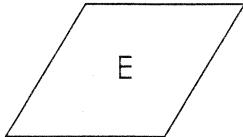
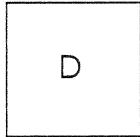


Does Not Fit the Rule



a. Draw a different shape that fits the rule.

4) Look at these shapes.

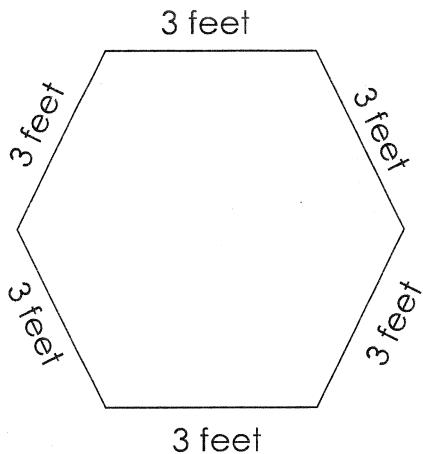


a. How are they alike? _____

b. How are they different? _____

Unit 4 Review (continued)

- 5) Trace the boundary of this shape.
Then find the perimeter.
Remember to write the units.



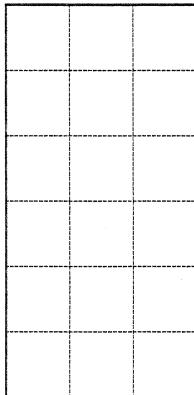
Perimeter: _____
(unit)

- b. Explain how you figured out the perimeter.

- c. Which name(s) could be used to name the shape in 5a?
Mark the box next to all that apply.

- polygon pentagon
 hexagon quadrangle

- 6) Find the perimeter and area of this rectangle.



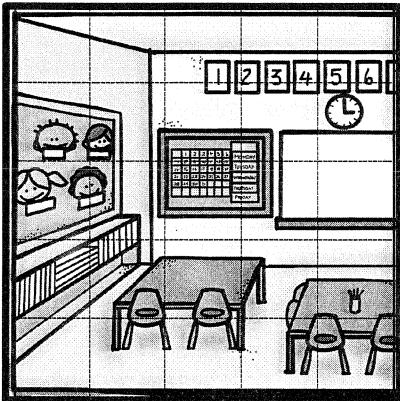
Key: = 1 square centimeter

a. Perimeter = _____ centimeters

b. Area = _____ square centimeters

Unit 4 Review (continued)

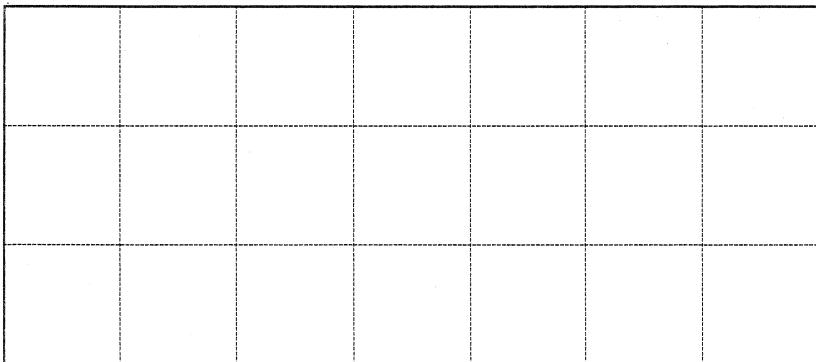
- 7) The art club made a mural from 1 foot tiles. Jonah says the perimeter of the mural is 25 feet and the area is 25 square feet.



Do you agree with Jonah? Explain.

- 8) Find the area of this rectangle.

Key:  = 1 square foot



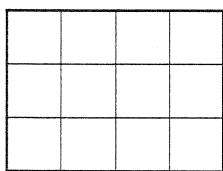
This is a _____-by-_____ rectangle.

Area = _____ square feet

Number sentence: _____ \times _____ = _____

Unit 4 Review (continued)

9) You picked this card in *The Area and Perimeter Game*:



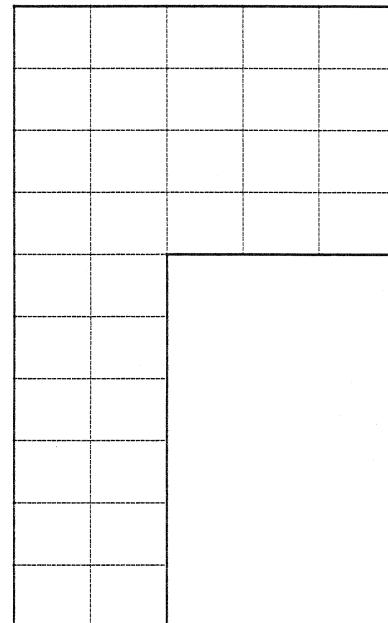
This is a 3-by-4 rectangle

Find the area and the perimeter.

Area: _____ square units

Perimeter: _____ units

10) a. Partition this rectilinear shape into 2 rectangles.



b. Find the area of each rectangle.

Area of one rectangle: _____ square units

Area of other rectangle: _____ square units

c. Add the areas of your rectangles to find the area of the whole shape.

Area of whole shape: _____ square units

Name: _____ Date: _____

EVERYDAY MATHEMATICS—3rd Grade

Unit 4 Challenge Review

- 1) Isabella measured this line segment in inches and it says about 6 inches long.
Olivia measured the line segment in $\frac{1}{2}$ inches and says it is about $12\frac{1}{2}$ -inches long.

Do you agree with Isabella and Olivia? Explain your answer.

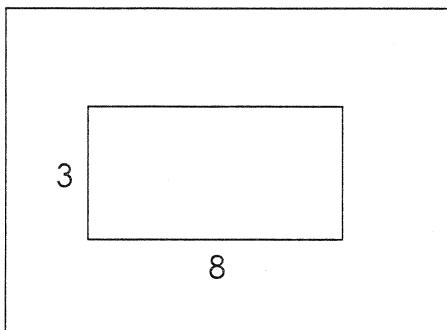
- 2) What is the smallest number of sides a polygon can have? _____

Draw an example of a polygon with this many sides.

Why are there no polygons with fewer sides?

Unit 4 Challenge Review (continued)

- 3) David's partner drew this card and a "Partner's Choice" card in The Area and Perimeter Game:

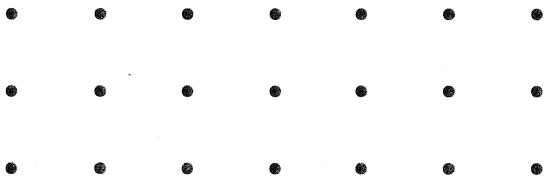


Should David have his partner record the area or the perimeter? Explain.

Name: _____ Date: _____

EVERDAY MATHEMATICS—3rd Grade **Unit 4 Cumulative Review**

- 1) Write a multiplication number sentence for this array.



Number sentence: _____

- 2) Draw an array to match this number sentence.

$$5 \times 4 = 20$$

- 3) Fill in the blanks.

a. _____ \times 3 = 12

b. 25 = _____ \times 5

c. 10 \times _____ = 30

- 4) Carlos was solving this problem: $30 \div 5 = 6$.

He asked himself, "5 times what number is 30?"

Then he knew the answer. How did Carlos figure out the answer?

Unit 4 Cumulative Review (continued)

5) Complete.

Rule
X 3



in	out
2	
4	
	15
6	

6) Round each number to the nearest 10 and nearest 100.

	a. Round to the nearest 10.	b. Round to the nearest 100.
381		
539		
705		
476		

c. Explain how you rounded 381 to the nearest 100.

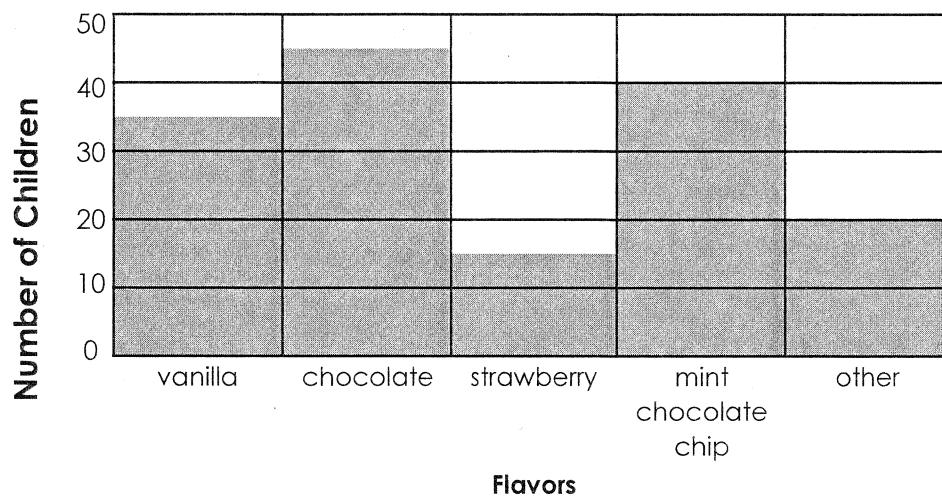
Unit 4 Cumulative Review (continued)

- 7) Jesse went for a walk at 2:15 P.M. He walked until 2:50 P.M.
How many minutes did he walk? Show your work.
You may use your toolkit clock or draw an open number line.

Jesse walked for _____
(unit)

- 8) Use the information in the bar graph to answer the questions below.

Favorite Ice Cream Flavor



- How many children voted in all? _____
- How many more children chose chocolate than vanilla? _____
- How many more children voted for strawberry and mint chocolate chip than vanilla? _____
- How did you solve 8c? Explain.

Name: *ANSWER KEY*

Date: _____

EVERDAY MATHEMATICS—3rd Grade

Unit 4 Review: Geometry & Measurement

- 1) Measure the line segments to the nearest $\frac{1}{2}$ inch. Write the unit.

about: 4 $\frac{1}{2}$ in
(unit)

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

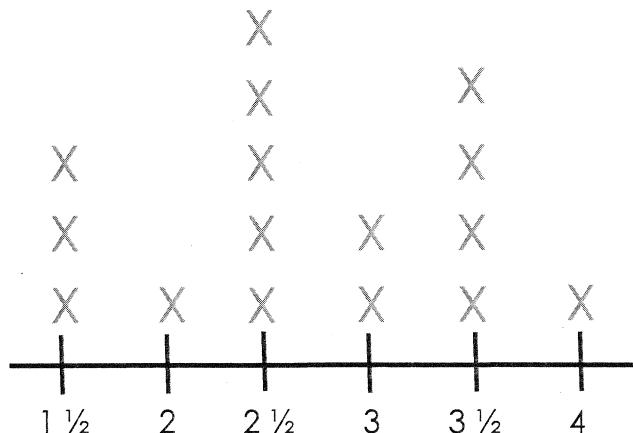
about: 6 in
(unit)

- 2) Use the data in the tally chart to make a line plot.

Use Xs to show the data on the line plot.

Lengths of Butterflies to the Nearest $\frac{1}{2}$ Inch	Number of Butterflies
1 $\frac{1}{2}$	///
2	/
2 $\frac{1}{2}$	///
3	//
3 $\frac{1}{2}$	///
4	/

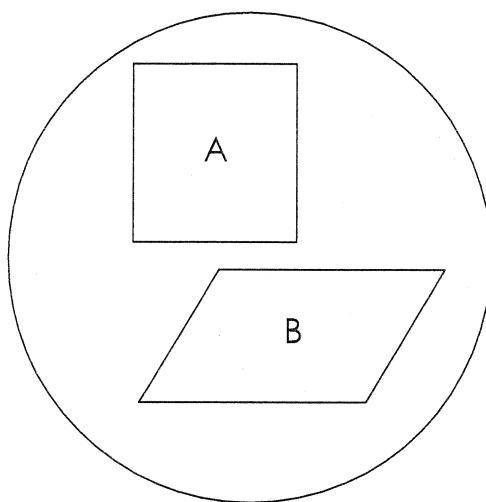
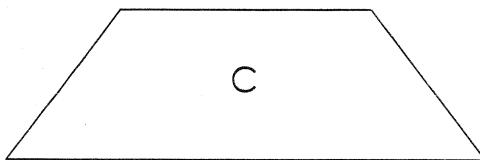
Lengths of Butterflies to the Nearest $\frac{1}{2}$ Inch



Unit 4 Review (continued) *ANSWER KEY*

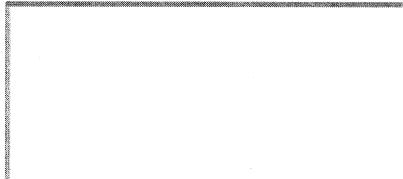
- 3) Daryl is playing What's My Polygon Rule?.

He places his polygons this way:

Fits the Rule**Does Not Fit the Rule**

- a. Draw a different shape that fits the rule.

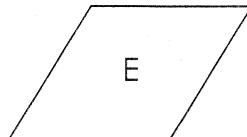
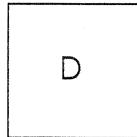
Possible answer:



- b. What could Daryl's rule be? Explain how you know.

Possible answer: Daryl's rule could be shapes with two pairs of parallel sides because A and B both have two sets of parallel lines and C only has 1 pair of parallel sides.

- 4) Look at these shapes.



- a. How are they alike? _____

Possible answer: They have two pairs of parallel sides. They both have 4 sides and 4 angles.

- b. How are they different? _____

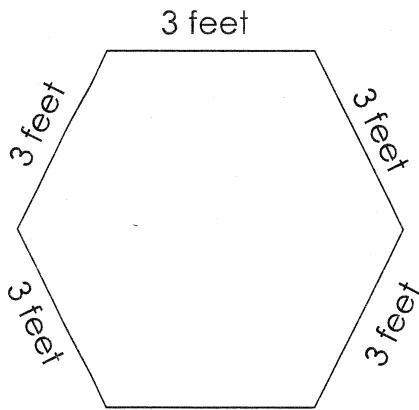
Possible answer: Shape D has 4 right angles, but Shape E does not have any right angles.

Unit 4 Review (continued)***ANSWER KEY***

5) Trace the boundary of this shape.

Then find the perimeter.

Remember to write the units.

Perimeter: 18 feet
(unit)

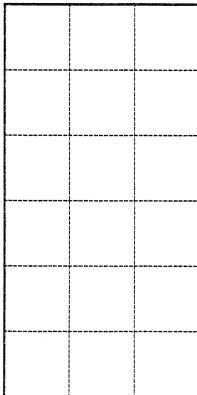
b. Explain how you figured out the perimeter.

Possible answers: I multiplied the length of each side, 3 feet, by the number of sides, 6 sides. 6 multiplied by 3 is 18.

I added $3 + 3 + 3 + 3 + 3 + 3$ and got a total of 18 feet.

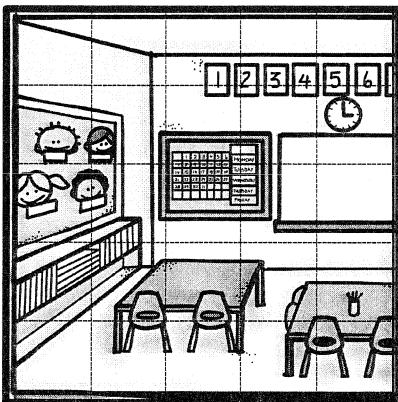
c. Which name(s) could be used to name the shape in 5a?
Mark the box next to all that apply. polygon pentagon hexagon quadrangle

6) Find the perimeter and area of this rectangle.

Key:  = 1 square centimetera. Perimeter = 18 centimetersb. Area = 18 square centimeters

Unit 4 Review (continued)***ANSWER KEY***

- 7) The art club made a mural from 1 foot tiles. Jonah says the perimeter of the mural is 25 feet and the area is 25 square feet.

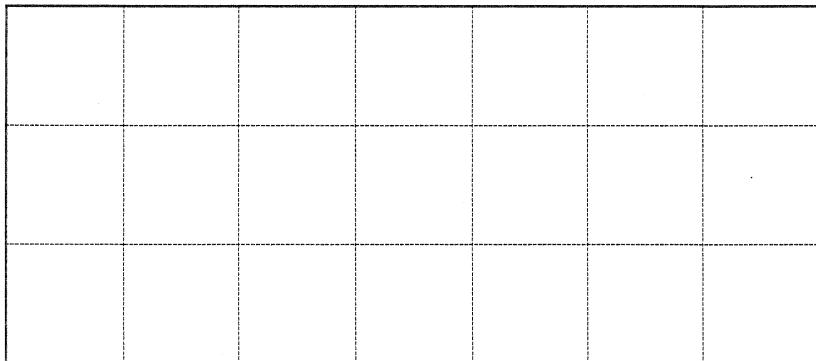


Do you agree with Jonah? Explain.

Possible answers: No. The length of each side is 5 feet, or 20 feet all the way around, because $5 + 5 + 5 + 5 = 20$. There are twenty-five 1-foot squares inside the mural, so its area is 25 square feet.

- 8) Find the area of this rectangle.

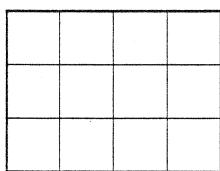
Key:  = 1 square foot



This is a 7-by-3 rectangle.

Area = 21 square feet

Number sentence: 7 \times 3 = 21

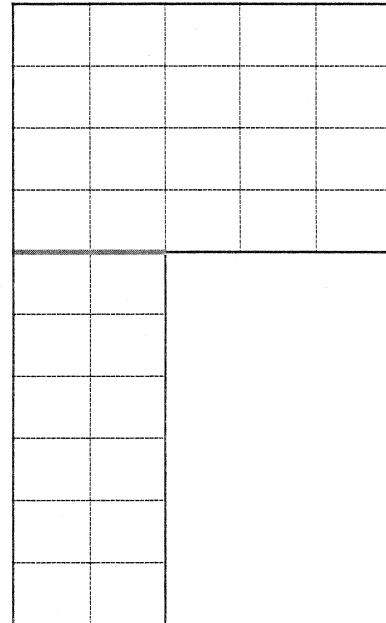
Unit 4 Review (continued)***ANSWER KEY***9) You picked this card in *The Area and Perimeter Game*:

This is a 3-by-4 rectangle

Find the area and the perimeter.

Area: 12 square unitsPerimeter: 14 units

10) a. Partition this rectilinear shape into 2 rectangles.



Possible answers:

b. Find the area of each rectangle.

Area of one rectangle: 20 square unitsArea of other rectangle: 12 square units

c. Add the areas of your rectangles to find the area of the whole shape.

Area of whole shape: 32 square units

Name: *ANSWER KEY* Date: _____

EVERDAY MATHEMATICS—3rd Grade **Unit 4 Challenge Review**

- 1) Isabella measured this line segment in inches and it says about 6 inches long. Olivia measured the line segment in $\frac{1}{2}$ inches and says it is about $12 \frac{1}{2}$ -inches long.
-

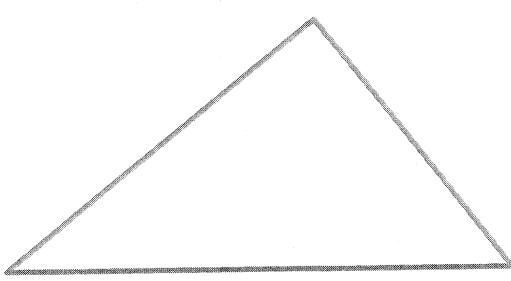
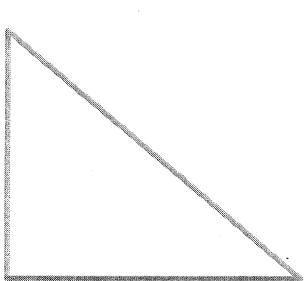
Do you agree with Isabella and Olivia? Explain your answer.

Possible answers: Yes, I agree with Isabella and Olivia because both 6 inches and $12 \frac{1}{2}$ -inches are the same length. Two $\frac{1}{2}$ -inches makes 1 whole inch.

- 2) What is the smallest number of sides a polygon can have? 3 sides

Draw an example of a polygon with this many sides.

Possible answers:

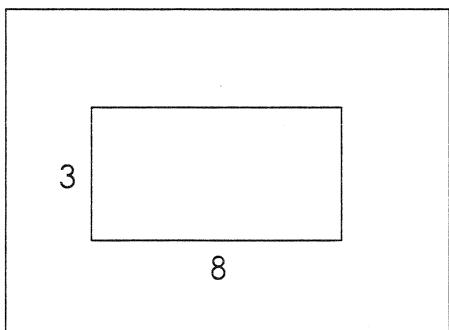


Why are there no polygons with fewer sides?

Possible answers: If you try to make a polygon with 2 sides, it will not be closed. It would look like an L or V, and there wouldn't be another side to connect it.

Unit 4 Challenge Review (continued)***ANSWER KEY***

- 3) David's partner drew this card and a "Partner's Choice" card in The Area and Perimeter Game:



Should David have his partner record the area or the perimeter? Explain.

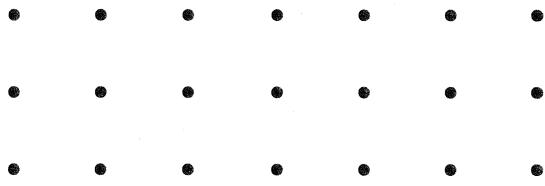
Possible answer: The perimeter is 22 units and the area is 24 square units, so I would choose the perimeter because it is the smaller measure.

Name: *ANSWER KEY*

Date: _____

EVERDAY MATHEMATICS—3rd Grade **Unit 4 Cumulative Review**

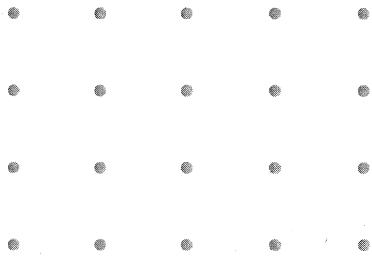
- 1) Write a multiplication number sentence for this array.



Number sentence: $3 \times 7 = 21$ or $7 \times 3 = 21$

- 2) Draw an array to match this number sentence.

$$5 \times 4 = 20$$



- 3) Fill in the blanks.

a. 4 $\times 3 = 12$

b. $25 =$ 5 $\times 5$

c. $10 \times$ 3 $= 30$

- 4) Carlos was solving this problem: $30 \div 5 = 6$.

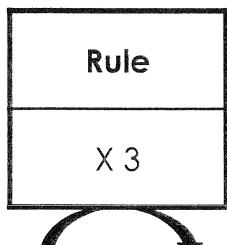
He asked himself, "5 times what number is 30?"

Then he knew the answer. How did Carlos figure out the answer?

Possible answers: Carlos used $5 \times 6 = 30$ to solve $30 \div 5 = 6$ since both facts are in the same fact family.

Unit 4 Cumulative Review (continued)***ANSWER KEY***

5) Complete.



in	out
2	6
4	12
5	15
6	18

6) Round each number to the nearest 10 and nearest 100.

	a. Round to the nearest 10.	b. Round to the nearest 100.
381	380	400
539	540	500
705	710	700
476	480	500

c. Explain how you rounded 381 to the nearest 100.

Possible answer: I made an open number line. 381 is between 300 and 400. I marked 350, and then thought about where 381 should be. It is more than 350, so 381 is closer to 400 than 300.

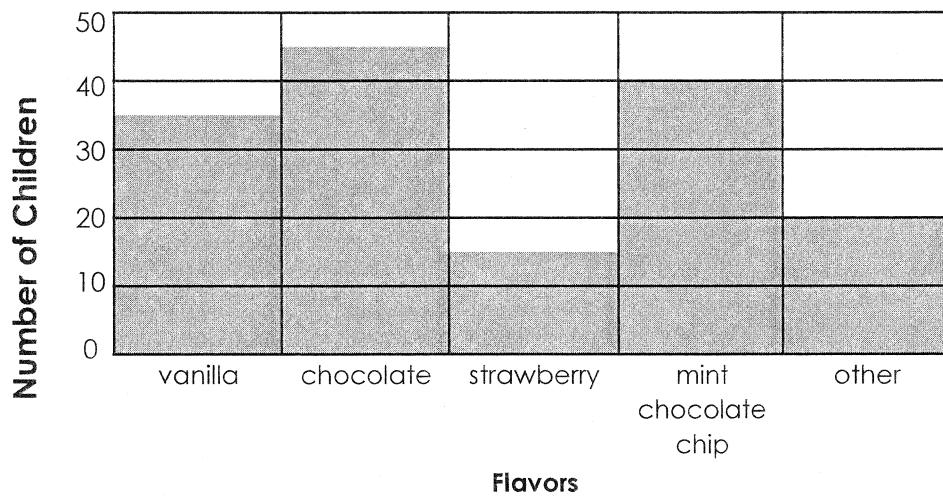
Unit 4 Cumulative Review (continued) *ANSWER KEY*

- 7) Jesse went for a walk at 2:15 P.M. He walked until 2:50 P.M.
How many minutes did he walk? Show your work.
You may use your toolkit clock or draw an open number line.

Jesse walked for 35 minutes
(unit)

- 8) Use the information in the bar graph to answer the questions below.

Favorite Ice Cream Flavor

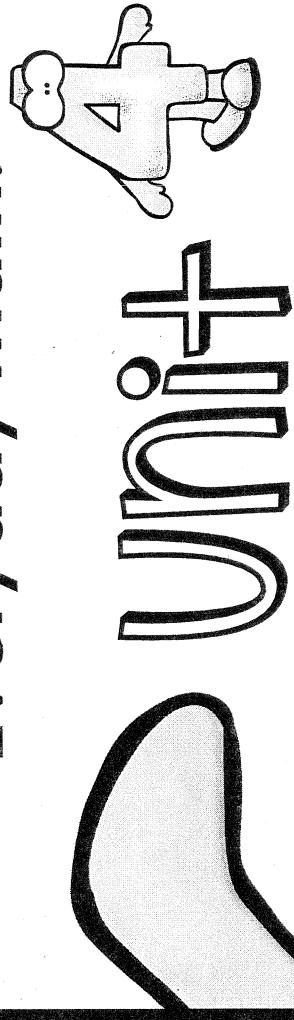


- How many children voted in all? 155 children
- How many more children chose chocolate than vanilla? 10 children
- How many more children voted for strawberry and mint chocolate chip than vanilla? 20 children
- How did you solve 8c? Explain.

Possible answer: I added the number of children who voted for strawberry and mint chocolate chip and got 55. I know that 35 children voted for vanilla, so I subtracted 35 from 55 and got 20.

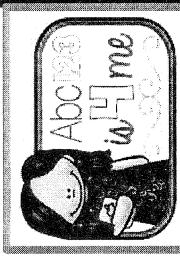
Grade 3

Everyday Math:



Measurement and Geometry

Study Guide



EDM Version 4

Name: _____

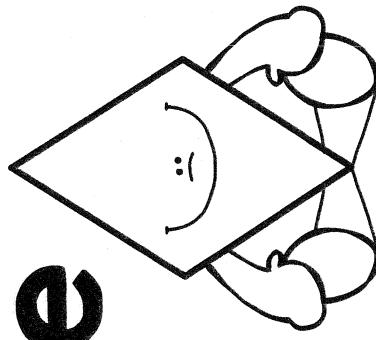
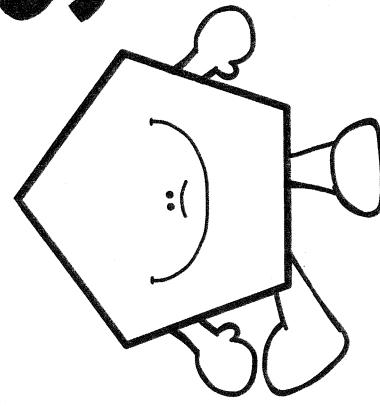
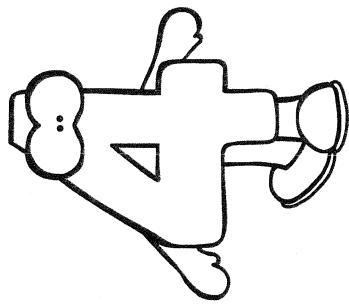
Test Date: _____

Grade 3

Everyday Math: Unit

Measurement and Geometry

Study Guide



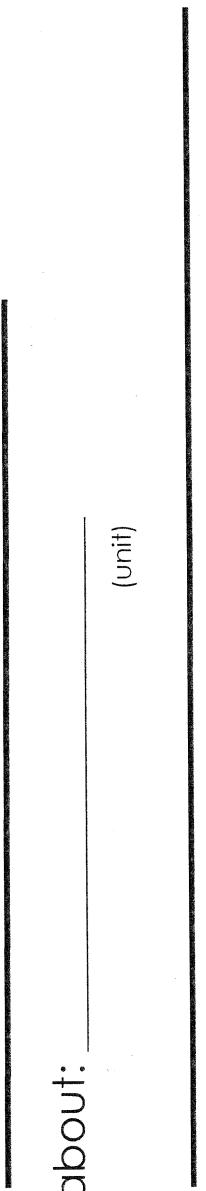
Unit Vocabulary:

angle, approximate, area, array, attributes, benchmark, composite unit, data, decompose, face, kilogram, kite, length, line plot, mass, mathematical model, maximum, minimum, parallel, parallelogram, perimeter, polygon, precise, quadrilateral, rectangle, rectilinear figure, rhombus, right angle, scale, side, square, square unit, trapezoid, & vertex

Lesson 4.1:

How do you measure to the nearest $\frac{1}{2}$ inch and whole centimeter?

Measure the line segments to the nearest $\frac{1}{2}$ inch. Write the unit.



about: _____
(unit)

about: _____
(unit)

Lesson 4.2:

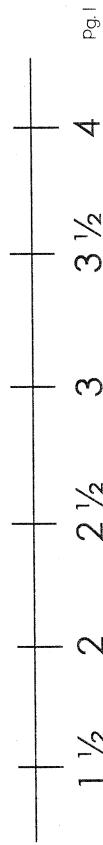
How do you represent measurement data on a line plot?

Use the data in the tally chart to make a line plot.

Use Xs to show the data on the line plot.

**Lengths of Crayons
to the Nearest $\frac{1}{2}$ inch**

Length of Crayons to the Nearest $\frac{1}{2}$ inch	Number of Crayons
1 $\frac{1}{2}$	
2	
2 $\frac{1}{2}$	
3	-
3 $\frac{1}{2}$	
4	



Lesson 4.3:

Exploration A: How do you measure the perimeter of an object to the nearest $\frac{1}{2}$ inch?

Measure the perimeter of the polygon to the nearest $\frac{1}{2}$ inch.



$$\text{Perimeter} = \underline{\hspace{2cm}}$$

Exploration B: How do you compare the masses of objects?

Fill in the blanks with vocabulary from today's lesson:

1. The measure of the amount of matter in an object is _____.
2. 1,000 grams = 1 _____.
3. We can estimate masses of objects by comparing them to masses of familiar objects, or _____. For example, a liter bottle of water is a benchmark for 1,000 grams, or 1 kilogram.

Exploration C: How do you move along a ruler in $\frac{1}{2}$ inch increments?

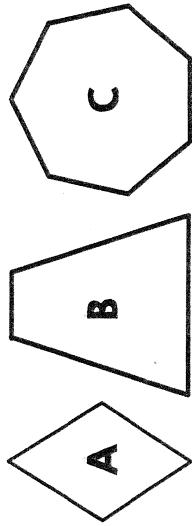
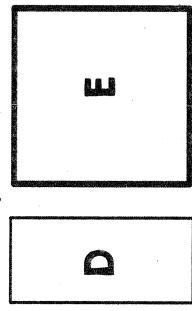
Answer the following questions:

1. How many $\frac{1}{2}$ inches are in 2 inches? _____ half-inches
2. How many $\frac{1}{2}$ inches are in $5\frac{1}{2}$ inches? _____ half-inches

Lesson 4.4:

How do you identify a polygon based on its characteristics?

Jack is playing What's My Polygon Rule?. He places his polygons this way:



Fits the Rule:

A

Does Not Fit the Rule:

D

E

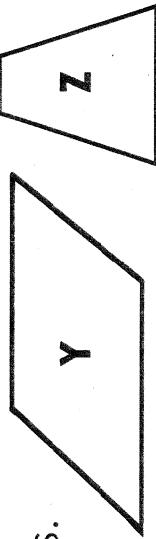
a. Draw a different shape that fits the rule:

b. What could Jack's rule be? Explain how you know.

Lesson 4.5:

How do you classify quadrilaterals based on their attributes?

Look at these shapes.



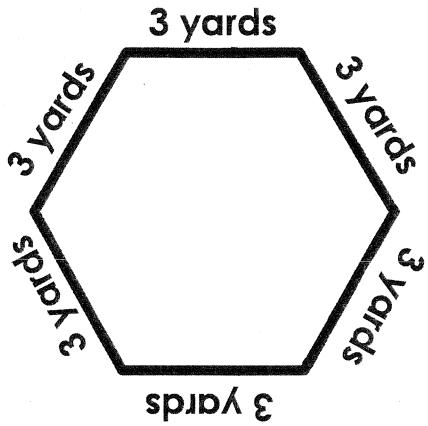
How are they alike?

How are they different?

Lesson 4.6:

How do you measure the perimeters of rectangles and other polygons?

- a. Trace the boundary of this shape. Then find the perimeter.



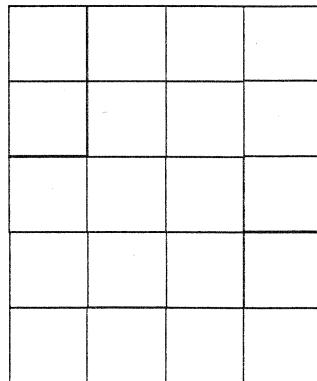
Perimeter: _____
(unit)

- b. Explain how you figured out the perimeter.

Lesson 4.7:

How do you distinguish between perimeter and area?

Find the perimeter and area of the rectangle.



Key: = 1 square centimeter

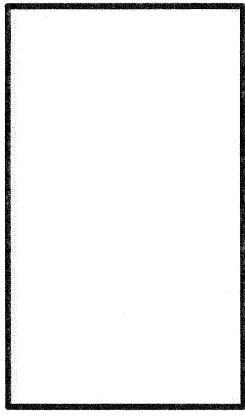
- a. Perimeter = _____ centimeters
b. Area = _____ square centimeters

Lesson 4.8:

How do you find the area of a rectangle using composite units?

Shade a composite that you can use to find the area of the rectangle. You may need to partition a row or a column.

7



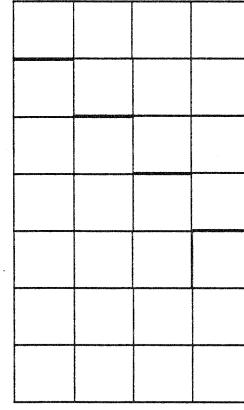
Area: _____ square units

Lesson 4.9:

How do you write a number sentence to calculate the area of a rectangle?

Find the area of this rectangle.

= 1 square meter



This is a ___-by-___ rectangle.

Area = _____ square meters

Number sentence: _____ \times _____ = _____

Lesson 4.10:

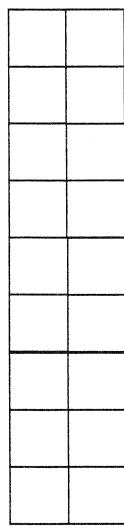
How do you find the area and perimeter of objects?

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

Find the area and the perimeter.

Area: _____ square units

Perimeter: _____ units

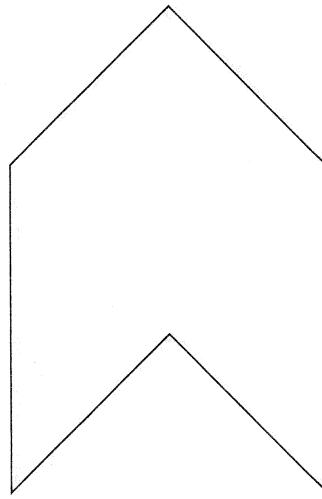
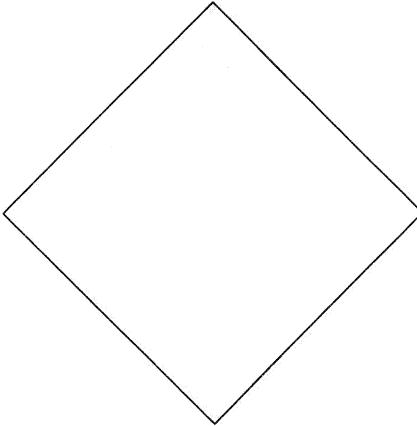


This is a 2- by 9- rectangle

Lesson 4.11:

How do you apply your knowledge of area and perimeter to real-world situations?

All sides of the two figures below are 5 feet long. Find the perimeter of each figure.



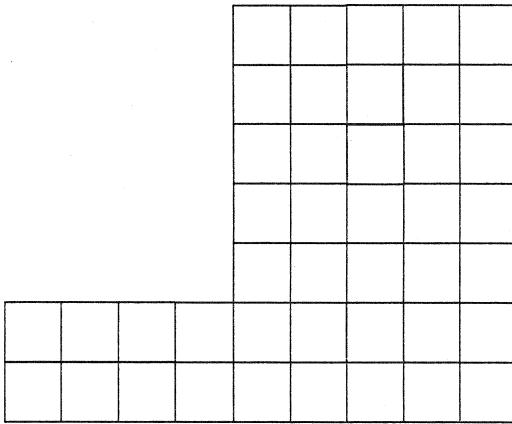
Perimeter = _____
(unit)

Perimeter = _____
(unit)

Lesson 4.12:

How do you calculate the area of rectilinear objects?

- a. Partition the rectilinear shape into 2 rectangles.



- b. Find the area of each rectangle.

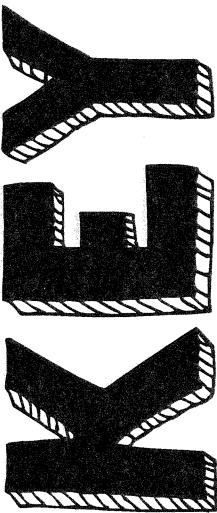
Area of one rectangle: _____ square units

Area of other rectangle: _____ square units

- c. Add the areas of your rectangles to find the area of the whole shape.

Area of the whole shape: _____ square units

W
E
A
R
M
I
N
G



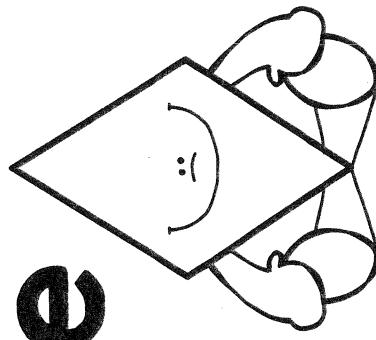
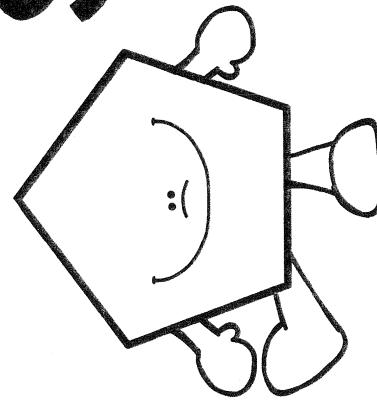
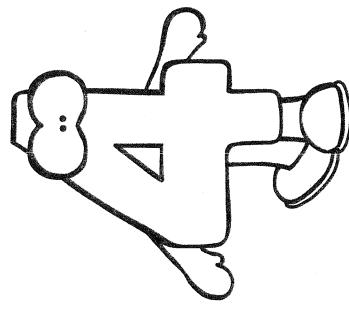
Name: Answer Key

Test Date: _____

Grade 3

Everyday Math: Unit Measurement and Geometry

Study Guide



Unit Vocabulary:

angle, approximate, area, array, attributes, benchmark, composite unit, data, decompose, face, kilogram, kite, length, line plot, mass, mathematical model, maximum, minimum, parallel, parallelogram, perimeter, polygon, precise, quadrilateral, rectangle, rectilinear figure, rhombus, right angle, scale, side, square, square unit, trapezoid, & vertex

Lesson 4.1:

How do you measure to the nearest $\frac{1}{2}$ inch and whole centimeter?

Measure the line segments to the nearest $\frac{1}{2}$ inch. Write the unit.

about: 4 $\frac{1}{2}$ in.
(unit)

about: 6 in.
(unit)

Lesson 4.2:

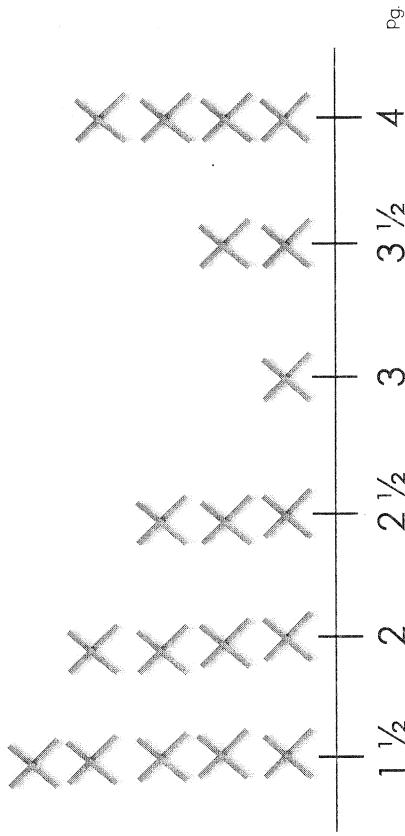
How do you represent measurement data on a line plot?

Use the data in the tally chart to make a line plot.

Use Xs to show the data on the line plot.

**Lengths of Crayons
to the Nearest $\frac{1}{2}$ inch**

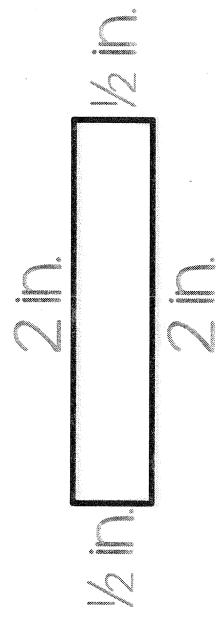
Length of Crayons to the Nearest $\frac{1}{2}$ inch	Number of Crayons
$1 \frac{1}{2}$	4
2	3
$2 \frac{1}{2}$	2
3	1
$3 \frac{1}{2}$	2
4	3



Lesson 4.3:

Exploration A: How do you measure the perimeter of an object to the nearest $\frac{1}{2}$ inch?

Measure the perimeter of the polygon to the nearest $\frac{1}{2}$ inch.



$$\text{Perimeter} = \underline{5 \text{ inches}}$$

Exploration B: How do you compare the masses of objects?

Fill in the blanks with vocabulary from today's lesson:

1. The measure of the amount of matter in an object is mass.
2. $1,000 \text{ grams} = 1$ kilogram.

3. We can estimate masses of objects by comparing them to masses of familiar objects, or benchmark. For example, a liter bottle of water is a benchmark for 1,000 grams, or 1 kilogram.

Exploration C: How do you move along a ruler in $\frac{1}{2}$ inch increments?

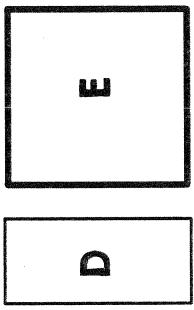
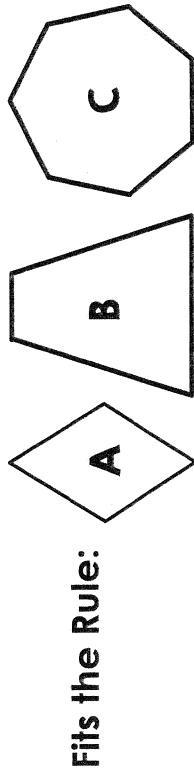
Answer the following questions:

1. How many $\frac{1}{2}$ inches are in 2 inches? 4 half- inches
2. How many $\frac{1}{2}$ inches are in $5\frac{1}{2}$ inches? 11 half- inches

Lesson 4.4:

How do you identify a polygon based on its characteristics?

Jack is playing What's My Polygon Rule?. He places his polygons this way:



- a. Draw a different shape that fits the rule:



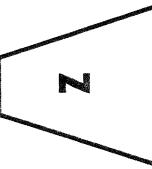
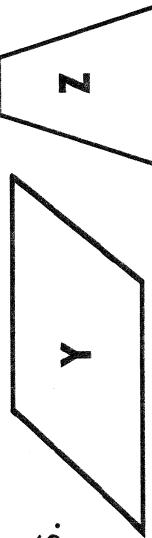
- b. What could Jack's rule be? Explain how you know.

Shapes do not have right angles.

Lesson 4.5:

How do you classify quadrilaterals based on their attributes?

Look at these shapes.



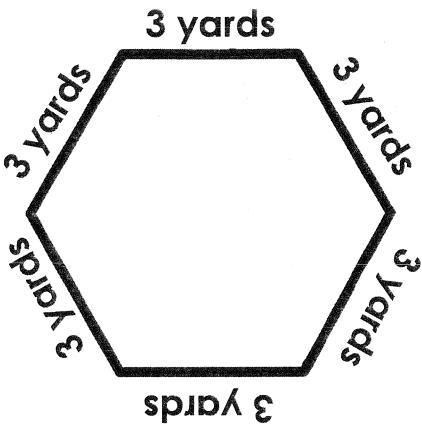
How are they alike? 4 sides, 4 angles, at least one pair of opposite sides parallel.

How are they different? Shape Y has two pairs of opposite sides that are parallel. Shape Z has just one.

Lesson 4.6:

How do you measure the perimeters of rectangles and other polygons?

- a. Trace the boundary of this shape. Then find the perimeter.



Perimeter: 18 yards _____
(unit)

- b. Explain how you figured out the perimeter.

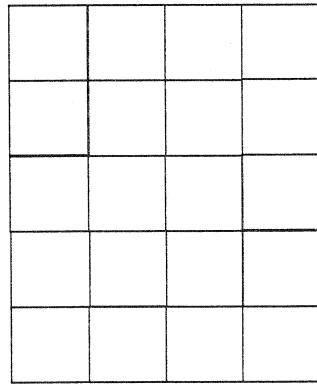
I added the sides together: $3 + 3 + 3 + 3 + 3 + 3 = 18$. OR I saw

that there were 6 sides that were 3 yards each, so $6 \times 3 = 18$.

Lesson 4.7:

How do you distinguish between perimeter and area?

Find the perimeter and area of the rectangle.



Key: = 1 square centimeter

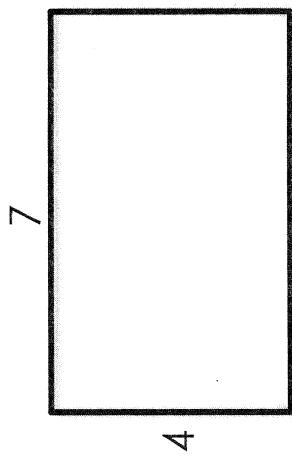
a. Perimeter = 18 centimeters

b. Area = 20 square centimeters

Lesson 4.8:

How do you find the area of a rectangle using composite units?

Shade a composite that you can use to find the area of the rectangle. You may need to partition a row or a column.



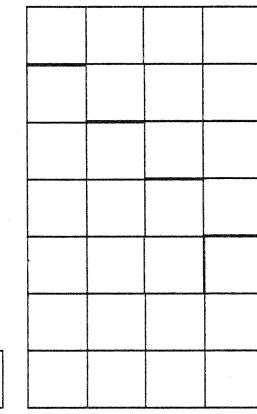
Area: 28 square units

Lesson 4.9:

How do you write a number sentence to calculate the area of a rectangle?

Find the area of this rectangle.

= 1 square meter



This is a 4-by-7 rectangle.

Area = 28 square meters

Number sentence: 4 x 7 = 28

Lesson 4.10:

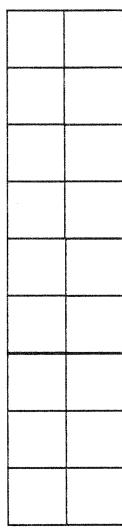
How do you find the area and perimeter of objects?

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

Find the area and the perimeter.

Area: 18 square units

Perimeter: 22 units

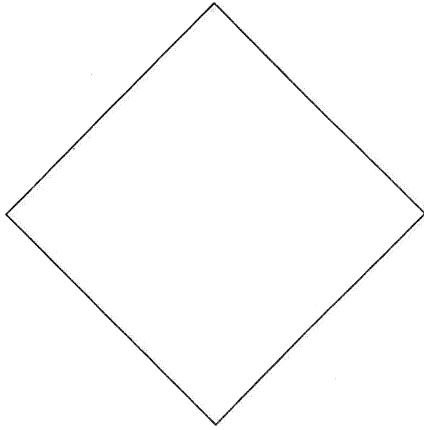
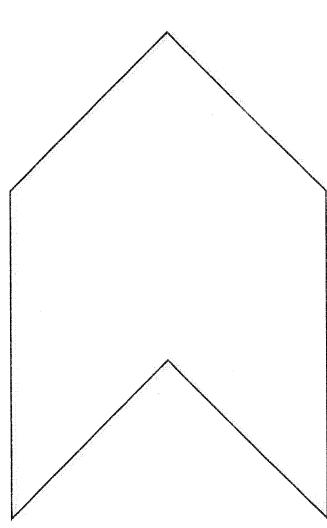


This is a 2- by 9- rectangle

Lesson 4.11:

How do you apply your knowledge of area and perimeter to real-world situations?

All sides of the two figures below are 5 feet long. Find the perimeter of each figure.



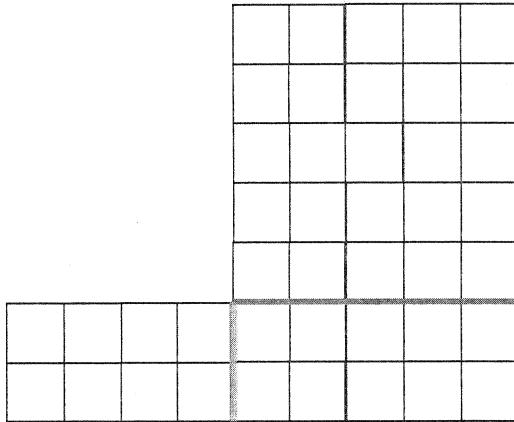
$$\text{Perimeter} = \frac{30 \text{ feet}}{(\text{unit})}$$

$$\text{Perimeter} = \frac{20 \text{ feet}}{(\text{unit})}$$

Lesson 4.I2:

How do you calculate the area of rectilinear objects?

- a. Partition the rectilinear shape into 2 rectangles.



There are two different ways that students can split up this rectilinear shape. One way is shown in red with the answers. The other way is shown in blue.

- b. Find the area of each rectangle.

Area of one rectangle: 8 square units

Area of other rectangle: 35 square units

- c. Add the areas of your rectangles to find the area of the whole shape.

Area of the whole shape: 43 square units