Grade 3
Everyday Math:

Unit 4
Measurement and Geometry

Study Guide

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Thank you!

Catherine Wiist @ Abc123is4me

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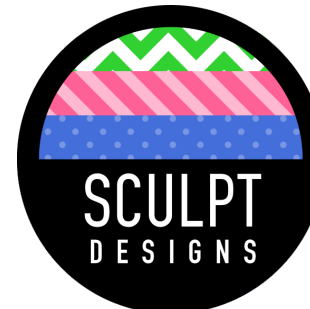
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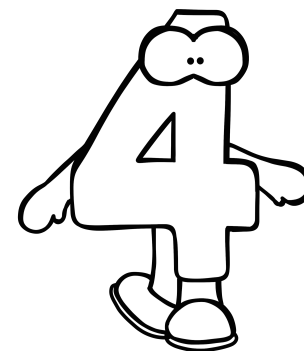
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Name: _____

Grade 3

Everyday Math: Unit 4

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 ½ inch and whole centimeter?

Measure the line segments to the nearest ½ inch. Write the unit.

_____

about: _____
(unit)

_____

about: _____
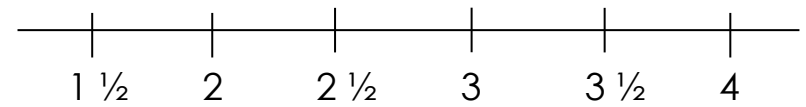(unit)

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.

Length of Crayons to the Nearest ½ inch	Number of Crayons
1 ½	卌
2	||||
2 ½	|||
3	|
3 ½	||
4	||||

**Lengths of Crayons
to the Nearest ½ inch**

1 ½   2   2 ½   3   3 ½   4

Lesson 4.3:

<u>Exploration A</u>: How do you measure the perimeter of an object to the nearest ½ inch?

Measure the perimeter of the polygon to the nearest ½ inch.

Perimeter = _____

<u>Exploration B</u>: 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.

<u>Exploration C</u>: How do you move along a ruler in ½ inch increments?

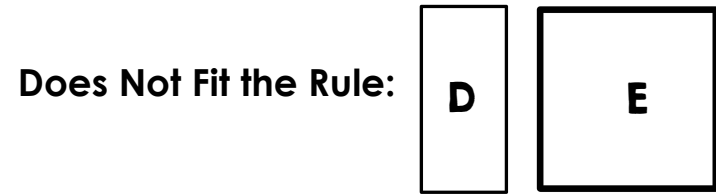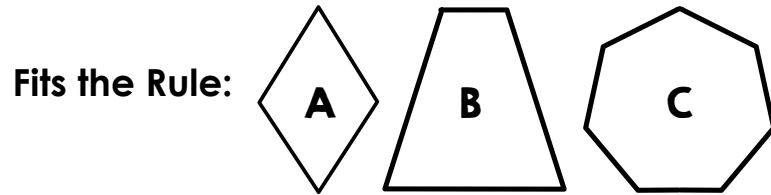Answer the following questions:

    1. How many ½ inches are in 2 inches? _____ half- inches

    2. How many ½ inches are in 5 ½ 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 B C   **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. Y Z
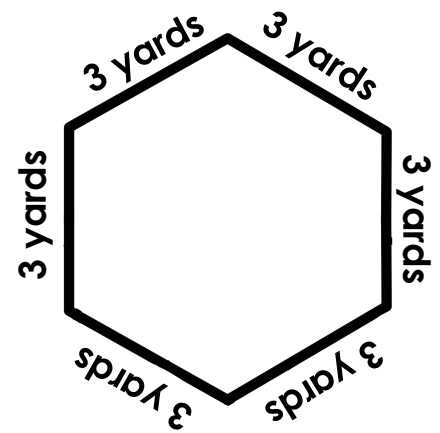
How are they alike? _____

_____

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.

_____
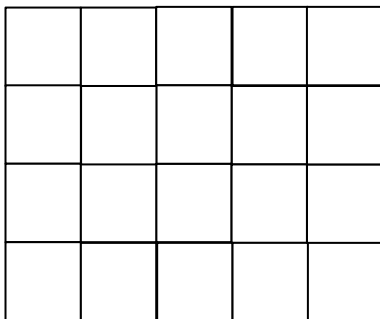
_____

3 yards
3 yards
3 yards
3 yards
3 yards
3 yards

Lesson 4.7:

How do you distinguish between perimeter and area?

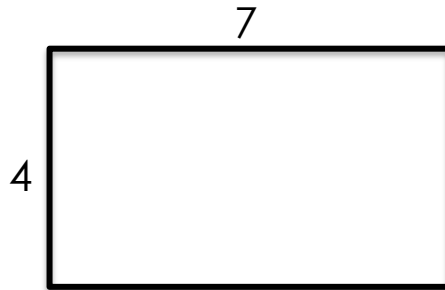Find the perimeter and area of the rectangle.

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.
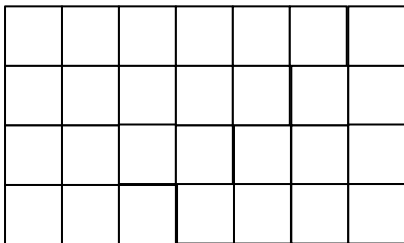
7

4

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
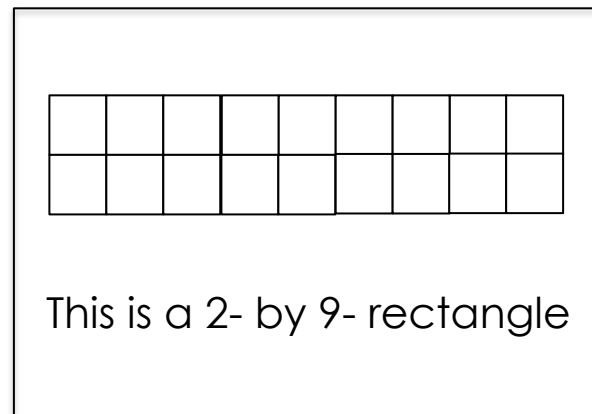
Number sentence: _____ x _____ = _____

Lesson 4.10:

How do you find the area and perimeter of objects?

You draw this card *in The Area and Perimeter Game*:
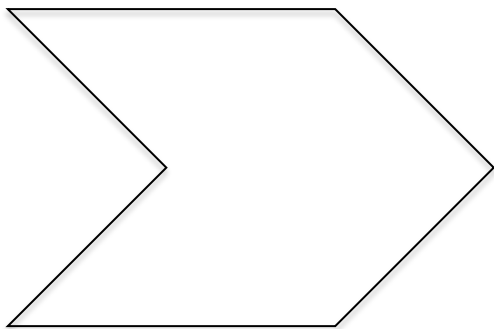
Find the area and the perimeter.

Area: _____ square units
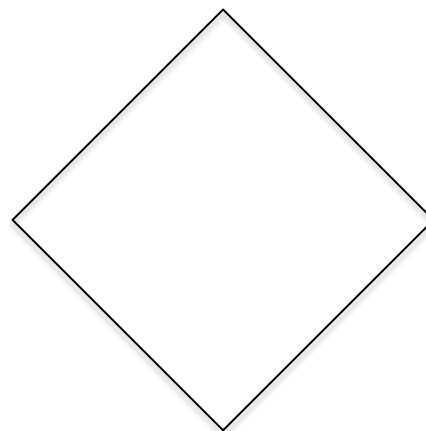
Perimeter: _____ units

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.
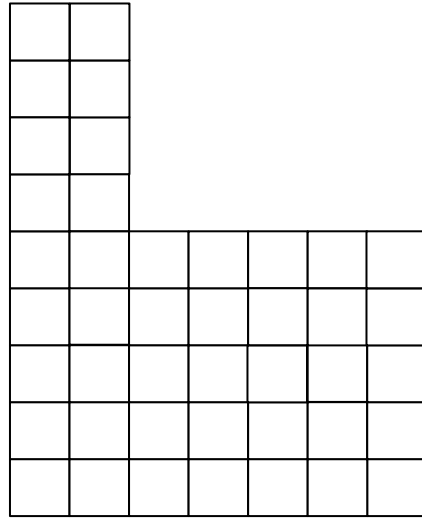
Perimeter = _____
(unit)

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

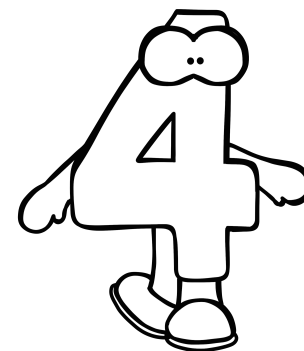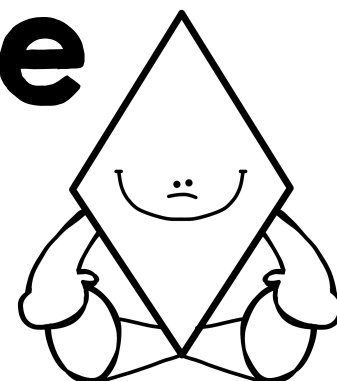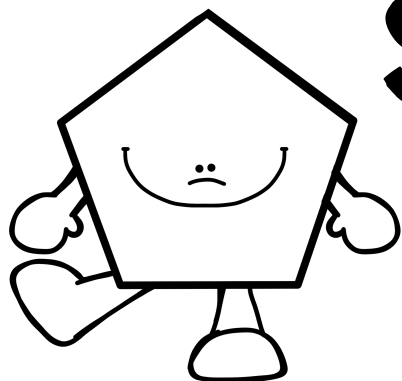# ANSWER KEY

Name: __Answer Key__

Test Date: ___ - ___ - ___

Grade 3

Everyday Math: Unit 4

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 ½ inch and whole centimeter?

Measure the line segments to the nearest ½ inch. Write the unit.

———————————————

about: __4 ½ in._____

(unit)

———————————————

about: __6 in._____

(unit)

Lesson 4.2:
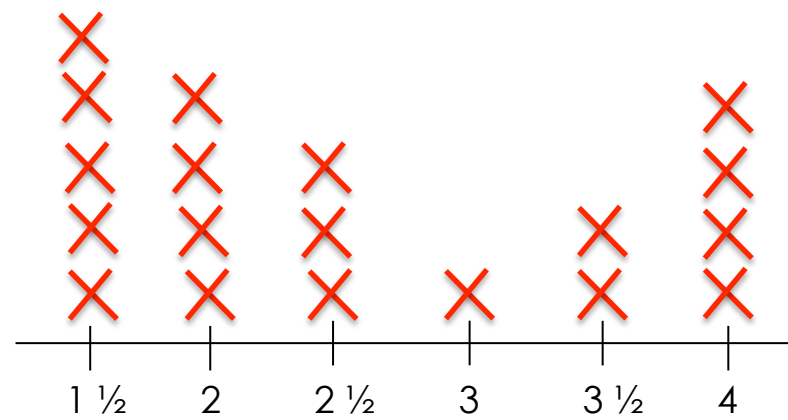
How do you represent measurement data on a line plot?

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

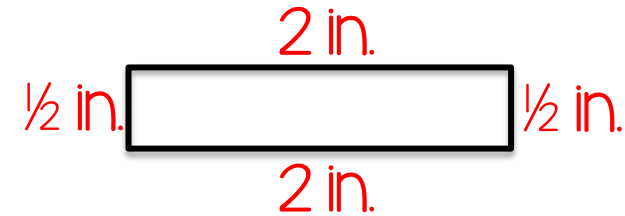| Length of Crayons to the Nearest ½ inch	Number of Crayons
1 ½	卌
2	IIII
2 ½	III
3	I
3 ½	II
4	IIII

**Lengths of Crayons
to the Nearest ½ inch**

1 ½   2   2 ½   3   3 ½   4

Lesson 4.3:

<u>Exploration A</u>: How do you measure the perimeter of an object to the nearest ½ inch?

Measure the perimeter of the polygon to the nearest ½ inch.

2 in.

½ in. [   ] ½ in.

2 in.

Perimeter = <u> 5 inches   </u>

<u>Exploration B</u>: 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 <u> mass   </u>.

2. 1,000 grams = 1 <u> kilogram   </u>.

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

<u>Exploration C</u>: How do you move along a ruler in ½ inch increments?

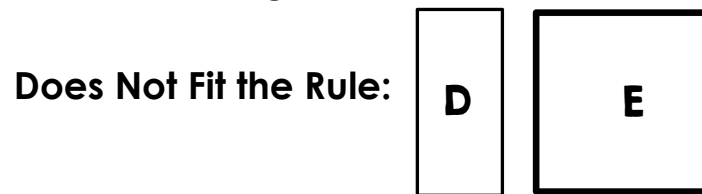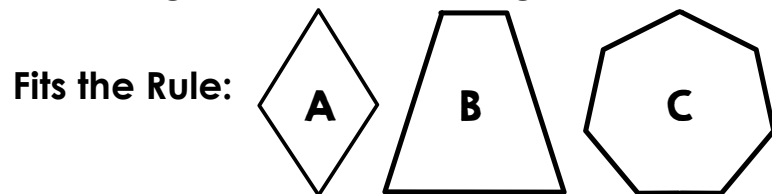Answer the following questions:

1. How many ½ inches are in 2 inches? <u> 4 </u> half- inches

2. How many ½ inches are in 5 ½ inches? <u> 11 </u> 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 B C   **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. _Shapes do not have right angles._

Lesson 4.5:

How do you classify quadrilaterals based on their attributes?

Look at these shapes. Y Z

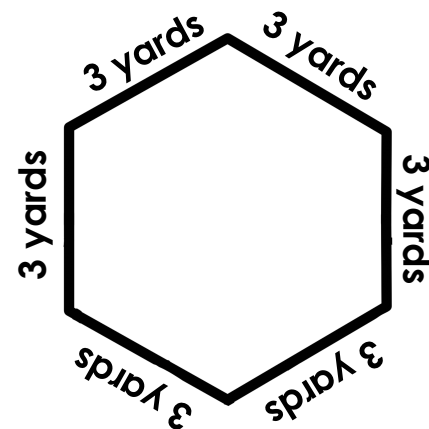How are they alike? _4 sides, 4 angles, at least one pair of opposite sides parallel._

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.
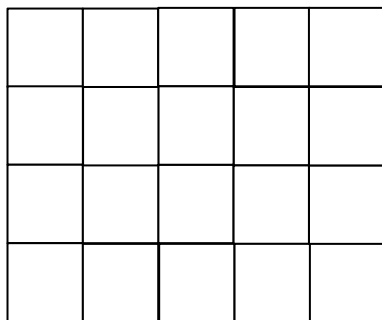
Perimeter: __18 yards__
(unit)

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 6x3= 18.

3 yards 3 yards
3 yards 3 yards
3 yards 3 yards

Lesson 4.7:

How do you distinguish between perimeter and area?

Find the perimeter and area of the rectangle.

Key: ☐ = 1 square centimeter

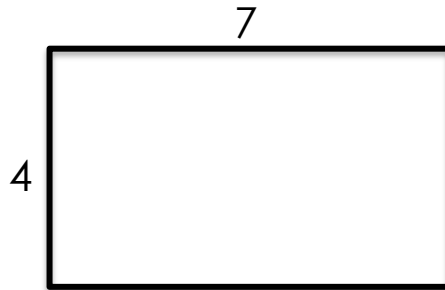a. Perimeter = __18__ centimeters

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.
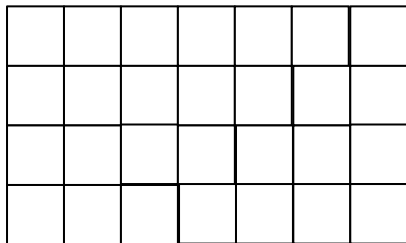
7

4

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
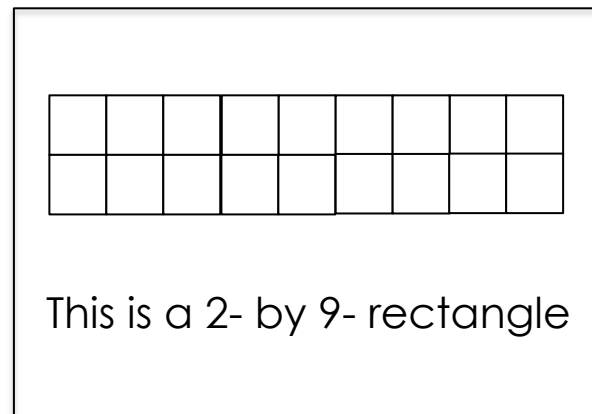
Number sentence: __4__ x __7__ = __28__

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.
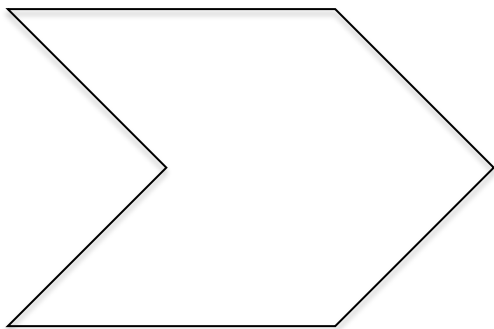
Area: __18__ square units

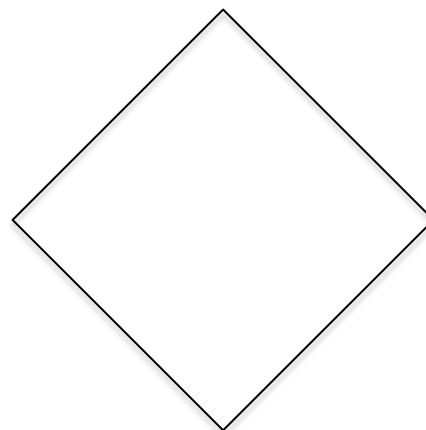Perimeter: __22__ units

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.
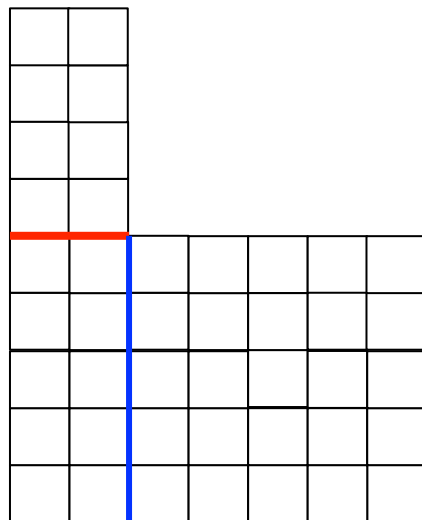

Perimeter = __30 feet__
(unit)

Perimeter = __20 feet__
(unit)

Lesson 4.12:

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   18

        Area of other rectangle: __35__ square units   25

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

        Area of the whole shape: __43__ square units   43