Chapter 7 and 9 – Graphs, Averages, Area and Perimeter

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 Name _____

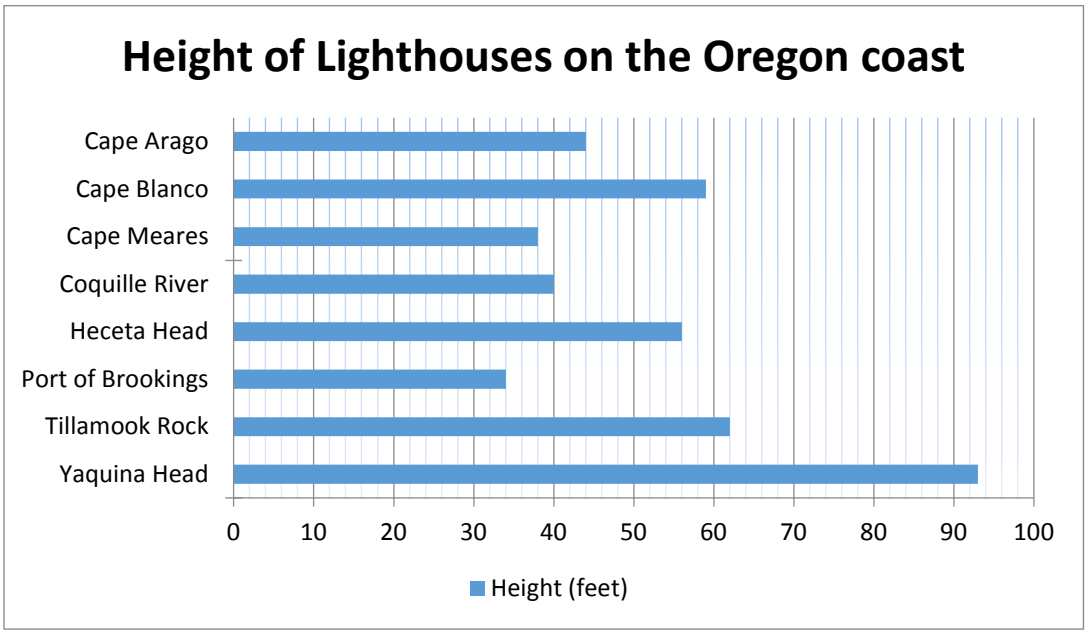
Use the graph provided to answer the questions. Show any calculations you perform and include units with your answers.

1. Refer to the following bar graph which shows the height of several lighthouses along the Oregon coast.

   a. What lighthouse in the graph is the tallest?

   b. What lighthouse in the graph has the shortest height?

   c. How much taller is Tillamook Rock Lighthouse than Cape Arago Lighthouse?

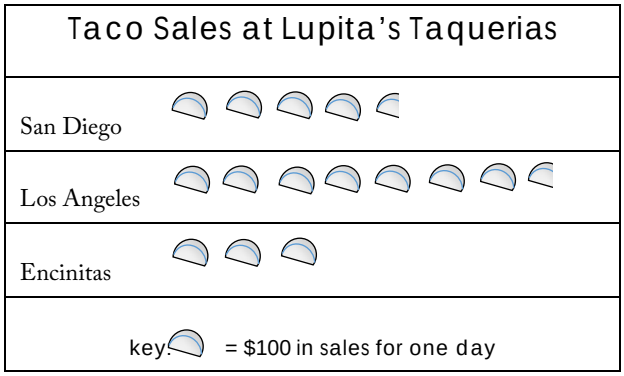


Source: TheOregonCoast.info, July 2016

2. Refer to the pictograph to the right.
   a. How much money was spent on tacos at the San Diego stand?

   b. How much money was spent on tacos at the Los Angeles stand?

   c. How much more money did people in Los Angeles spend than people in Encinitas?

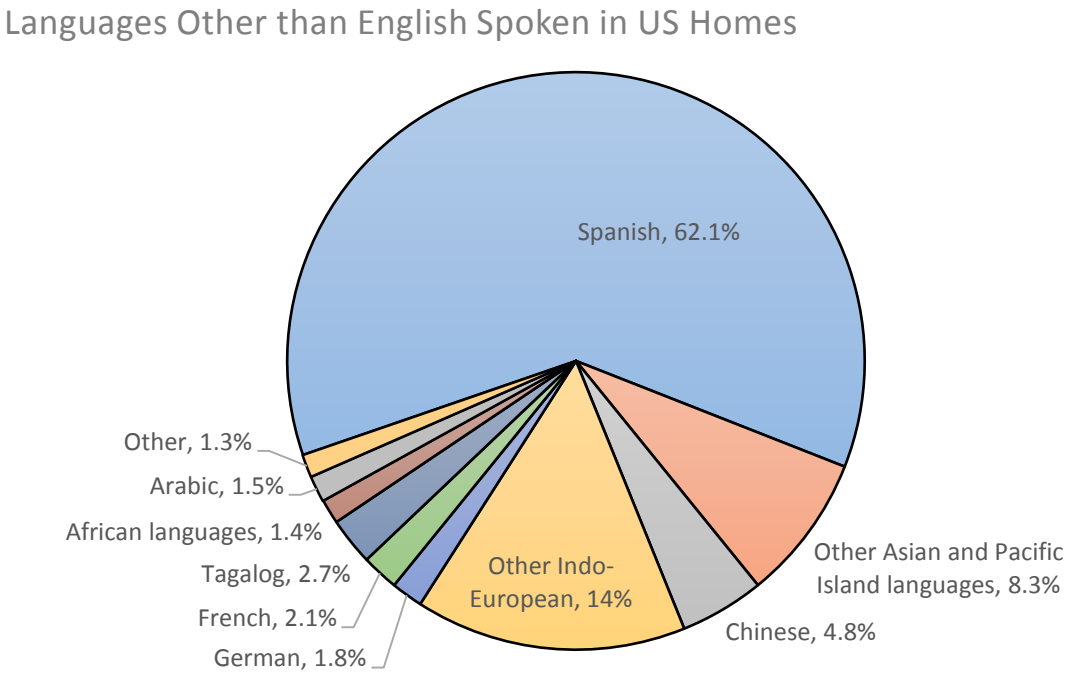


Refer to the circle graph below.

a. Roughly 60,360,000 people in the US speak a language other than English in the home. What percentage of these speak either Chinese or Spanish?

b. What percentage speak another language that is not Spanish?

c. How many people speak French in the home?



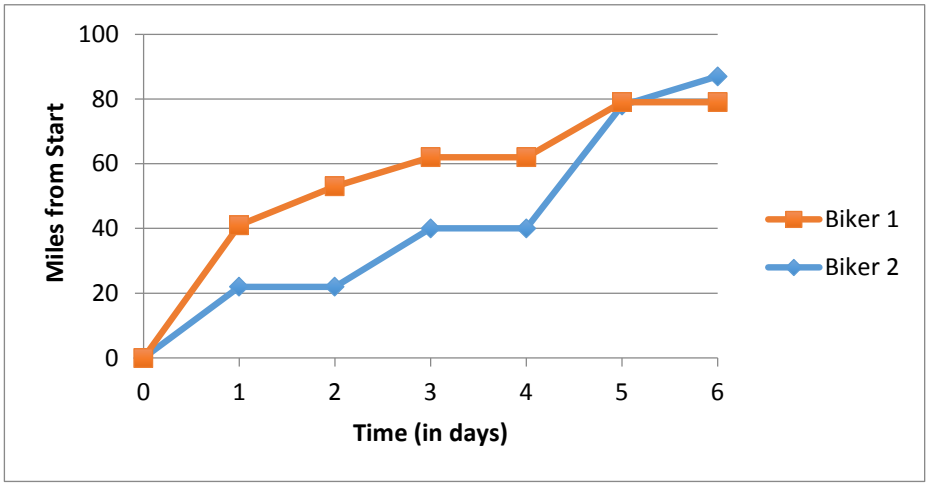
Source: Data from U.S. Census, 2009-2013 American Community Survey

4. Refer to the line graph below. Two bikers go on a bike tour. Biker 1 starts out much faster than Biker 2.

a. On what day(s) did Biker 2 stop to rest while Biker 1 kept riding?

b. Which biker traveled further by the end of day 4?

c. Which biker traveled the furthest by the end of the tour?



Instructor Notes:

This is a group activity. The idea is to allow students to move the numbers around to put them in order and identify the middle number (good for kinesthetic learners). You might also have them read the problems out loud to each other, which is good for auditory learners.

There should be card sets located with the manipulatives at your campus. Each group should get 9 numbers: 16, 15, 16, 18, 15.1, 12.34, 11, 19, 16.5

The data is also included in the appendix if needed. You should print out enough sets so that each group of 2-3 has their own data set. Print enough worksheets for each student. You can also make your own data set.

Mean, Median and Mode Activity **Name _____**

1. Get a set of data cards for your group. Spread the numbers out and place them in order from smallest to largest. There are _____ numbers. When you are finished, write down your ordered list below:

2. Which number is the "middle" number? If you have an odd number of numbers, the middle number is called the **median.**

   The median of this set is_____

3. Is there a most frequent number? If so, this number is called the **mode.**

   The mode of this set is_____

4. What is the mean (average) of this set? You may use your calculator.

   The mean of this set is_____

5. Now, turn the numbers over, mix them up and remove one of the numbers. Turn the numbers over, put them in order (least to greatest) and write your list of numbers below:

   What is the median of this set?

   What is the mode of this set?

   What is the mean of this set?

6. Data was collected on the number of hours slept by college students in a class of 9 people. The data is listed below:

   6.0, 9.0, 4.5, 5.5, 6.0, 9.0, 7.0, 4.5, 5.75

   Find the mean, median and mode of the data. You may use your calculator for the mean.

7. Find the median of the fractions $\frac{5}{6}, \frac{11}{12}, \frac{7}{8}, \text{ and } \frac{3}{4}$ following the directions below:

   a. Find common denominators for all of the fractions.

   b. Order the fractions from smallest to largest.

   c. Since there is an even number of numbers, the median is the average of the middle two numbers.

Area and Perimeter Picture Quiz **Name** _____

Circle the measurement that applies to each picture.

1. Building a fence: Area or Perimeter



2. Tiling a floor: Area or Perimeter



3. Painting a wall: Area or Perimeter



4. Sewing ribbon on a border: Area or Perimeter



5. Spreading Seed: Area or Perimeter

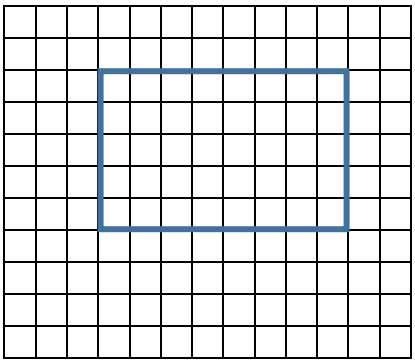


6. Caulking around a window: Area or Perimeter



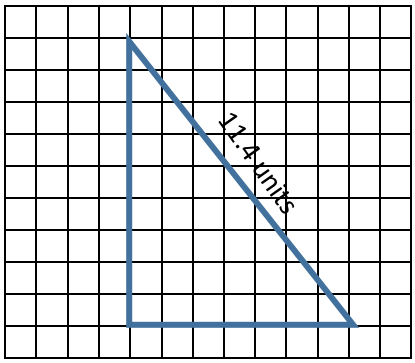
Area and Perimeter Activity **Name** _____

Find the perimeter and the area of the shapes. Each square is one unit.



Perimeter: _____

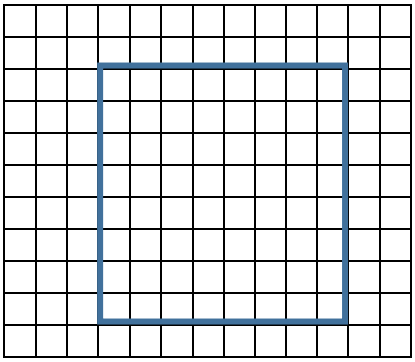
Area: _____



Perimeter: _____

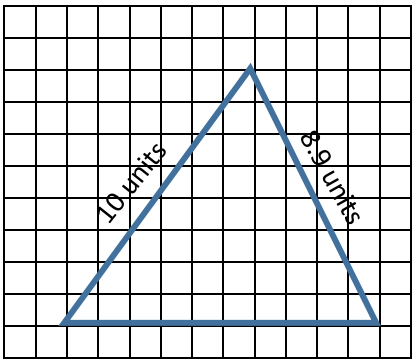
Area: _____

6.4 units



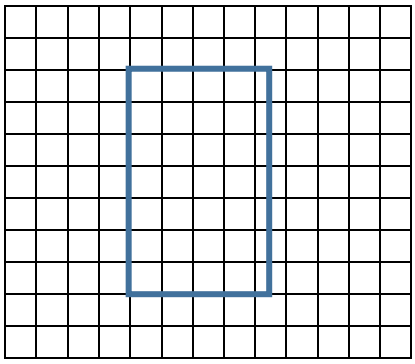
Perimeter: _____

Area: _____



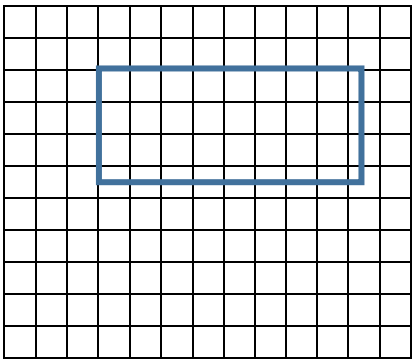
Perimeter: _____

Area: _____



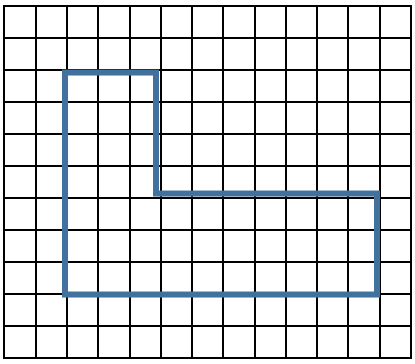
Perimeter: _____

Area: _____



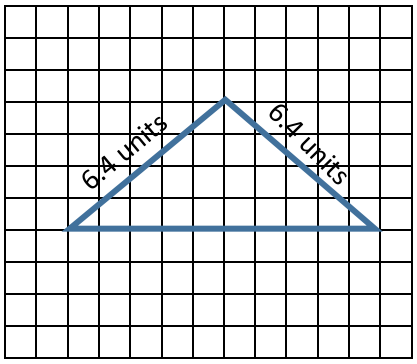
Perimeter: _____

Area: _____



Perimeter: _____

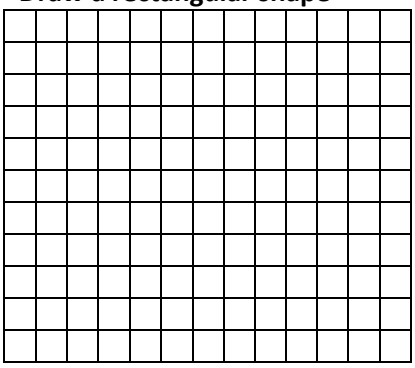
Area: _____



Perimeter: _____

Area: _____

Draw a rectangular shape



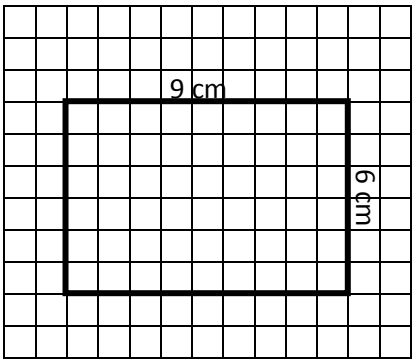
Perimeter: _____

Area: _____

Find the perimeter and area using the appropriate formula.

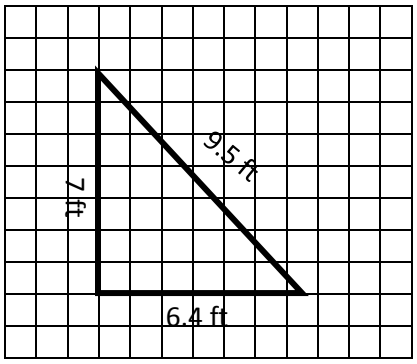
Perimeter: the sum of all sides

Area: Square: $A = s^2$ Triangle: $A = \frac{1}{2}bh$ Rectangle: $A = l \cdot w$



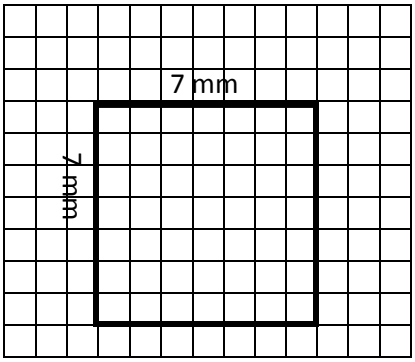
Perimeter: _____

Area: _____



Perimeter: _____

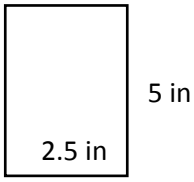
Area: _____



Perimeter: _____

Area: _____

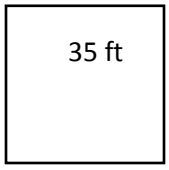
A rectangle with sides of 5 inches and 2.5 inches



Perimeter: _____

Area: _____

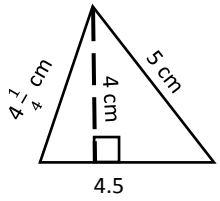
A square with sides of 35 feet



Perimeter: _____

Area: _____

A triangle with sides of $4\frac{1}{4}$ cm, 4.5 cm, and 5 cm.



Perimeter: _____

Area: _____

Area Problem Solving Activity

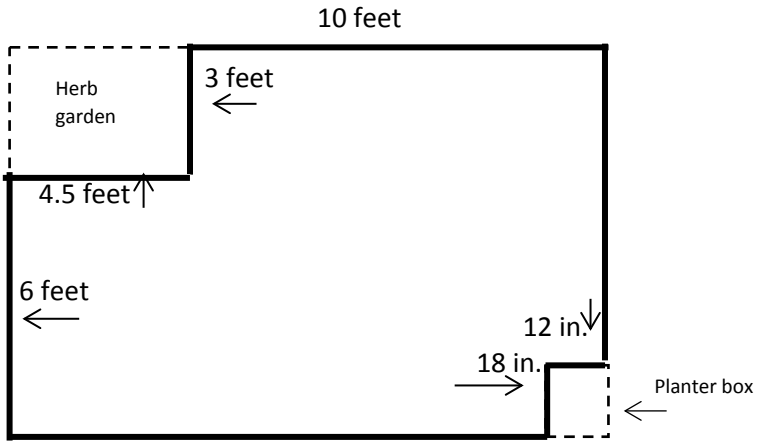
Name _____

The purpose of this exercise is not to just get the correct answer, but to come up with as many different ways to get the answer as you can.

Can you come up with at least two different ways? Three ways? More?

Martin wants to create a gravel patio in his back yard. He needs to know the area of the yard in order to buy the right amount of gravel, since one bag of gravel will cover 3 square feet. Use the diagram of his patio area to calculate its area, and then determine how many bags of gravel he will need to buy. (Remember that he will need to buy bags in whole numbers.)

Be sure to clearly show your work so anyone can understand how you got your answer, and state your answers in a complete sentence.



Math 20 Review Scavenger Hunt Setup and Answers

Materials: 5 Envelopes with clues, tape to put envelopes up around the room

Setup: Get 5 envelopes and write one of the answers on each one (on the flap side with the flap open): 144, 135, 121, 120, -130. Print 2 pages of each clue and cut into strips. Place the clues in the proper envelope as listed below. Keep one or two of each clue out for the starting clues.

Start each group with a different clue. When they solve the problem they will find their answer on an envelope that holds the next clue. When they have done all 5 problems they are done.

Place this clue in the 144 envelope:

Answer each problem to determine the 3 digits of the next envelope:
1st digit: –6 + 7 =
2nd digit: –10 – (–13) =
3rd digit: 23 + (–18) =

Answer: 135

Place this clue in the 135 envelope:

Solve this problem: $\frac{1}{3} \div \left(\frac{1}{6} + \frac{4}{9} \right)$

The denominator squared is the number on the next envelope.

Answer: 121

Place this clue in the 121 envelope:
Juan must work 24 hours to pay the tuition for 3 college credits. If Juan plans to sign up for 15 credits at PCC in the Fall, how many hours will he need to work?
Use a proportion to solve the problem. The answer is on the next envelope.

Answer: 120

Place this clue in the 120 envelope:

Solve this problem: $-64 \div 8 \cdot 2^3 + 6(-11)$

The answer is the number on the next envelope.

Answer: -130

Place this clue in the -130 envelope:
A video game which is regularly priced at $168.44, is on sale for 10% off. You have a coupon for an additional 5% off the sale price. How much would you pay with the coupon?
Round your answer to the nearest dollar. The answer is on the next envelope.

Answer: 144 – loop to the top envelope

No calculator

Answer each problem to determine the 3 digits of the next envelope:

1^{st} digit: $-6 + 7 =$
2^{nd} digit: $-10 - (-13) =$
3^{rd} digit: $23 + (-18) =$

No calculator

Answer each problem to determine the 3 digits of the next envelope:

1^{st} digit: $-6 + 7 =$
2^{nd} digit: $-10 - (-13) =$
3^{rd} digit: $23 + (-18) =$

No calculator

Answer each problem to determine the 3 digits of the next envelope:

1^{st} digit: $-6 + 7 =$
2^{nd} digit: $-10 - (-13) =$
3^{rd} digit: $23 + (-18) =$

No calculator

Answer each problem to determine the 3 digits of the next envelope:

1^{st} digit: $-6 + 7 =$
2^{nd} digit: $-10 - (-13) =$
3^{rd} digit: $23 + (-18) =$

No calculator

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3^{rd} digit: $23 + (-18) =$

No calculator

Answer each problem to determine the 3 digits of the next envelope:

1^{st} digit: $-6 + 7 =$
2^{nd} digit: $-10 - (-13) =$
3^{rd} digit: $23 + (-18) =$

No calculator

Solve this problem: $\frac{1}{3} \div \left(\frac{1}{6} + \frac{4}{9} \right)$

The denominator squared is the number on the next envelope.

No calculator

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No calculator

Solve this problem: $\frac{1}{3} \div \left(\frac{1}{6} + \frac{4}{9} \right)$

The denominator squared is the number on the next envelope.

Calculator OK

Juan must work 24 hours to pay the tuition for 3 college credits. If Juan plans to sign up for 15 credits at PCC in the Fall, how many hours will he need to work?

Use a proportion to solve the problem. The answer is on the next envelope.

Calculator OK

Juan must work 24 hours to pay the tuition for 3 college credits. If Juan plans to sign up for 15 credits at PCC in the Fall, how many hours will he need to work?

Use a proportion to solve the problem. The answer is on the next envelope.

Calculator OK

Juan must work 24 hours to pay the tuition for 3 college credits. If Juan plans to sign up for 15 credits at PCC in the Fall, how many hours will he need to work?

Use a proportion to solve the problem. The answer is on the next envelope.

Calculator OK

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Use a proportion to solve the problem. The answer is on the next envelope.

Calculator OK

Juan must work 24 hours to pay the tuition for 3 college credits. If Juan plans to sign up for 15 credits at PCC in the Fall, how many hours will he need to work?

Use a proportion to solve the problem. The answer is on the next envelope.

No calculator

Solve this problem: $-64 \div 8 \cdot 2^3 + 6(-11)$

The answer is the number on the next envelope.

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Calculator OK

A video game which is regularly priced at $168.44, is on sale for 10% off. You have a coupon for an additional 5% off the sale price. How much would you pay with the coupon?

Round your answer to the nearest dollar. The answer is on the next envelope.

Calculator OK

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