TOPIC: SCALE DRAWINGS

Solve the problems.

1. Sara uses a scale of 1 cm : 12 m to draw a floor plan of a new store. She has to redraw the drawing so that it is larger for her presentation. Could Sara use the following scales? Select *Yes* or *No* for each scale.

How long would a 12-meter wall be on each scale?

a. 1 cm : 8 m ☐ Yes ☐ No

b. 1 cm : 20 m ☐ Yes ☐ No

c. 2 cm : 24 m ☐ Yes ☐ No

d. 3 cm : 15 m ☐ Yes ☐ No

2. Gregory draws a scale drawing of his room. The scale that he uses is 1 cm : 4 ft. On this drawing, the room is 3 centimeters long. Which equation can be used to find the actual length of Gregory's room?

How are the units related in the scale equation?

A $\frac{1}{4} = \frac{x}{3}$　　　C $\frac{1}{4} = \frac{3}{x}$

B $\frac{x}{4} = \frac{1}{3}$　　　D $\frac{1}{x} = \frac{4}{3}$

Rob chose **A** as the correct answer. What did he do wrong?

_____

_____

3. Jon planned a bicycle ride for several of his friends. On his map, 1 inch represents 2.5 miles of actual distance. Which statements are true? Select all that apply.

Are the ratios equivalent?

A　The scale of the map is 1 in. : 2.5 mi.

B　A distance of 50 miles on the ride is represented by 20 inches on the map.

C　Every 20 miles of the ride is represented as 2.5 inches on the map.

D　A distance of 5 inches on the map represents 15 miles on the ride.

Solve.

The scale used to make a scale model of a volcano is 5 cm : 250 m. The height of the actual volcano is about 1,325 meters. How tall is the model?

How are equivalent ratios used to create scales?

A   26.5 cm

C   5.3 m

B   265 cm

D   26.5 m

Petra wants to represent a distance of 400 miles on a piece of notebook paper that is 8.5 inches wide and 11 inches long. She wants to use a scale of 1 in. = 20 mi.

A model may help you solve this problem.

a.   Can Petra make this scale drawing? Why or why not?

_____

_____

_____

_____

b.   Give an example of a scale that Petra could use. Use the form of 1 in. = ? mi for the scale.

_____

A science museum has a scale model of a ladybug. In the model, 50 centimeters represents 9 millimeters. The length of the model is 1 meter. How long is the actual ladybug?

Write an equation to relate the ratios.

Show your work.

Solution: _____

Topic: Area and Circumference Review

Homework:

Solve the problems. Use 3.14 for π.

1 The diameter of a DVD is 12 centimeters. The hole in the center of a DVD has a diameter of 1.5 centimeters.

Find the area of the DVD. Round to the nearest hundredth if necessary.

Show your work.

> A diagram might help you solve this problem.

Solution:_____

2 Keb wants to put a swimming pool in his backyard. He buys a square plastic tarp to go under it. The circumference of the pool is 48 feet. The tarp is 16 feet on each side.

> What is the largest pool diameter that will fit on the tarp?

a. Show that the tarp is large enough for the pool to fit entirely on the tarp.

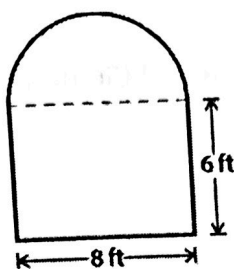b. To the nearest percent, what percent of the tarp will be covered by the pool?

Show your work.

3 A gate is made up of a rectangle and a semicircle, as shown. Find the area of the gate.

Show your work.

6 ft

←——8 ft——→

How can you find the area of a composite figure?

Solution: _____

4 Tuan wants to add trim only around the edges of the gate in problem 3. How much trim does he need?

A   20.28 feet

C   34.56 feet

B   32.56 feet

D   39.12 feet

Which formulas do you need to solve this problem?

5 Chas builds a circular pen for his dog. The radius of the pen is 9 feet. How much fencing did Chas use for the pen?

A   28.26 feet

C   63.585 feet

B   56.52 feet

D   254.34 feet

Do you need to find the circumference or the area of the circle?

Skye chose **A** as the correct answer. How did she get that answer?

_____

6 A circular plate has a radius of 12 inches. Complete the table. Include a number and a unit in the last column.

What units are used with each measure?

Property of Circle	Formula	Measure
Area		
		24 inches
Circumference		