

# What Did the Detectives Say to the Crook?

- 1 To make his special salad dressing, Wolfgang combines 7 fl oz of oil with 4 fl oz of vinegar. One day he needed a larger amount, so he used 8 fl oz of oil. How much vinegar did he need?

Key

$\frac{\text{vinegar}}{\text{oil}}$
-------------------------------------

$$(8) \frac{4}{7} = \frac{x}{8} (8)$$
$$4.6 = x$$

He will need  
4.6 ounces  
of vinegar.

- 2 The ratio of height to width for a TV screen is 9 to 16. How high is a screen that is 30 in. wide?

Key

$\frac{\text{High}}{\text{Wide}}$
-----------------------------------

$$(30) \frac{9}{16} = \frac{x}{30} (30)$$
$$16.9 = x$$

The TV  
screen is  
16.9 inches  
high.

- 3 GEAR RATIO. The ratio of the number of teeth on Gear A to the number of teeth on Gear B is 5 to 12. How many teeth are on Gear B?  
(Hint: Count the teeth on Gear A.)

Key

$\frac{\text{Gear A}}{\text{Gear B}}$
---------------------------------------

$$\frac{5}{12} = \frac{15}{x}$$

$\times 3$

$$x = 36$$

There are  
36 teeth  
on Gear B.

- 4 Jessica checked her gas mileage and found that she had used 17.4 gal of gas to travel 392 mi. At this rate, how many gallons will she use to travel from Los Angeles to Miami, a distance of 2,735 mi?

Key

gallons
mi

$$(2735) \frac{17.4}{392} = \frac{x}{2735}$$

$$121.4 = x$$

Jessica will need 121.4 gallons of gas to drive to Miami.

- 5 If there are 95 g of fat in 16 oz of ground beef, how much fat is in 3 oz of ground beef?

Key

g fat
oz. beef

$$(3) \frac{95g}{16oz} = \frac{x}{3oz}$$

$$17.8 = x$$

There are 17.8 g of fat in 3 oz of ground beef.

- 6 A locomotive is 56 ft long and 11 ft wide. A special effects designer makes a model that is 18 in. long. How wide should it be?

Key

Wide
Long

$$(18) \frac{11}{56} = \frac{x}{18}$$

$$3.5 = x$$

The model should be 3.5 inches long.

- 7** The Screaming Equals' team color is made by mixing red paint with blue paint in a ratio of 12 to 7. How much blue paint should be mixed with 4 gal of red?

Key  
Blue  
Red

$$(4) \frac{7}{12} = \frac{x}{4} \quad (4)$$
$$2.3 = x$$

You will need  $2\frac{1}{3}$  gal. of blue paint.

- 8** A marathon runner ran the first 3 mi in 17.2 min. If she continues running at this pace, how long will it take her to run the entire marathon of 26.2 mi?

Key  
minutes  
miles

$$(26.2) \frac{17.2}{3} = \frac{x}{26.2} \quad (26.2)$$

$$150.2 = x$$

The runner will take 150.2 minutes, or  $\sim 2.5$  hours to run the marzathon.

- 9 SOLAR SYSTEM MODEL.** The sun has a diameter of 870,000 mi. The Earth has a diameter of 8,000 mi. If a 24-cm-diameter basketball is used as a model sun, what should be the diameter of the model Earth?

Key  
inches  
miles

$$\frac{(8000) \cdot 24}{870,000} = \frac{X \cdot (8000)}{8000}$$

$$0.2 = X$$

The model Earth will have a diameter of 0.2 inches.

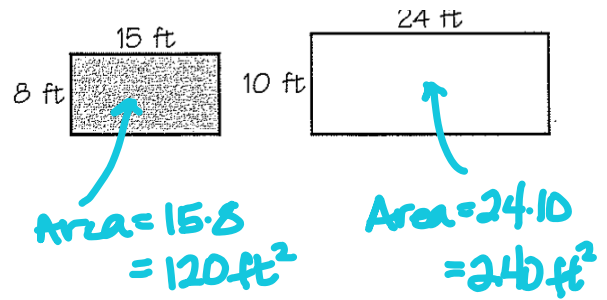
- 10** If it took 1.5 qt of paint to paint the wall on the left, how many quarts will be needed to paint the wall on the right?

Key

$\frac{\text{Quarts}}{\text{Area}}$
-------------------------------------

$$\frac{1.5}{120} = \frac{x}{240}$$

$x = 3$



It will take 3 quarts to paint the wall on the right

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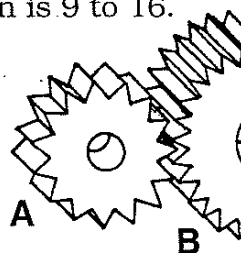
Solve each problem and find your solution in the answer column. Note the two letters next to it. Write these letters in the two boxes above the exercise number at the bottom of the page.



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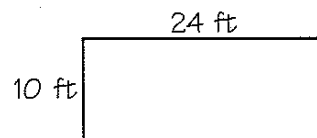
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answers

ST	153.4 min
WE	36
ES	4.9 in.
ET	2.3 gal
DR	18.3 g
OS	0.7 cm
OL	3 qt
IC	4.6 fl oz
TH	42
OM	121.4 gal
AN	2.5 gal
OU	3.5 in.
GO	5.2 fl oz
AR	150.2 min
TY	16.9 in.
UN	2.8 qt
EP	17.8 g
EE	0.2 cm
LL	124.5 gal



