

Cross Multiplying to Find an Unknown

PRO 1

Instructions: For each of these proportions (without units), use the cross-multiplying procedure you learned in the video to solve for the unknown number 'n'.

1 $\frac{n}{9} = \frac{2}{3}$

$n \times 3 = 9 \times 2$

$\frac{n \times \cancel{3}}{\cancel{3}} = \frac{18}{3}$

$n = 6$

2 $\frac{5}{n} = \frac{2}{8}$

3 $\frac{n}{4} = \frac{12}{6}$

4 $\frac{2}{9} = \frac{n}{45}$

5 $\frac{3}{8} = \frac{n}{32}$

6 $\frac{7}{3} = \frac{21}{n}$

7 $\frac{7}{3} = \frac{35}{n}$

8 $\frac{n}{6} = \frac{5}{30}$

Proportion Word Problems

PRO 3

Instructions: Use proportions to answer each of these word problems. You can use a calculator.

- 1** If 2 liters of sea water contain 70 grams of salt, how much salt is in 32 liters of sea water?

$$\frac{70 \text{ grams}}{2 \text{ liters}} = \frac{n \text{ grams}}{32 \text{ liters}}$$

$$70 \times 32 = 2 \times n$$

$$\frac{2,240}{2} = \frac{2 \times n}{2}$$

$$n = 1,120 \text{ grams}$$

- 2** If it takes 930 kg of food to feed a pair of elephants for 3 days, how much food would you need to feed them for a week?

- 3** If a fuel efficient car can go 210 miles on 4 gallons of fuel, how far can it go on 12 gallons?

- 4** If a farmer gets 340 bushels of corn from 2 acres of land, how many bushels can they get from 15 acres?

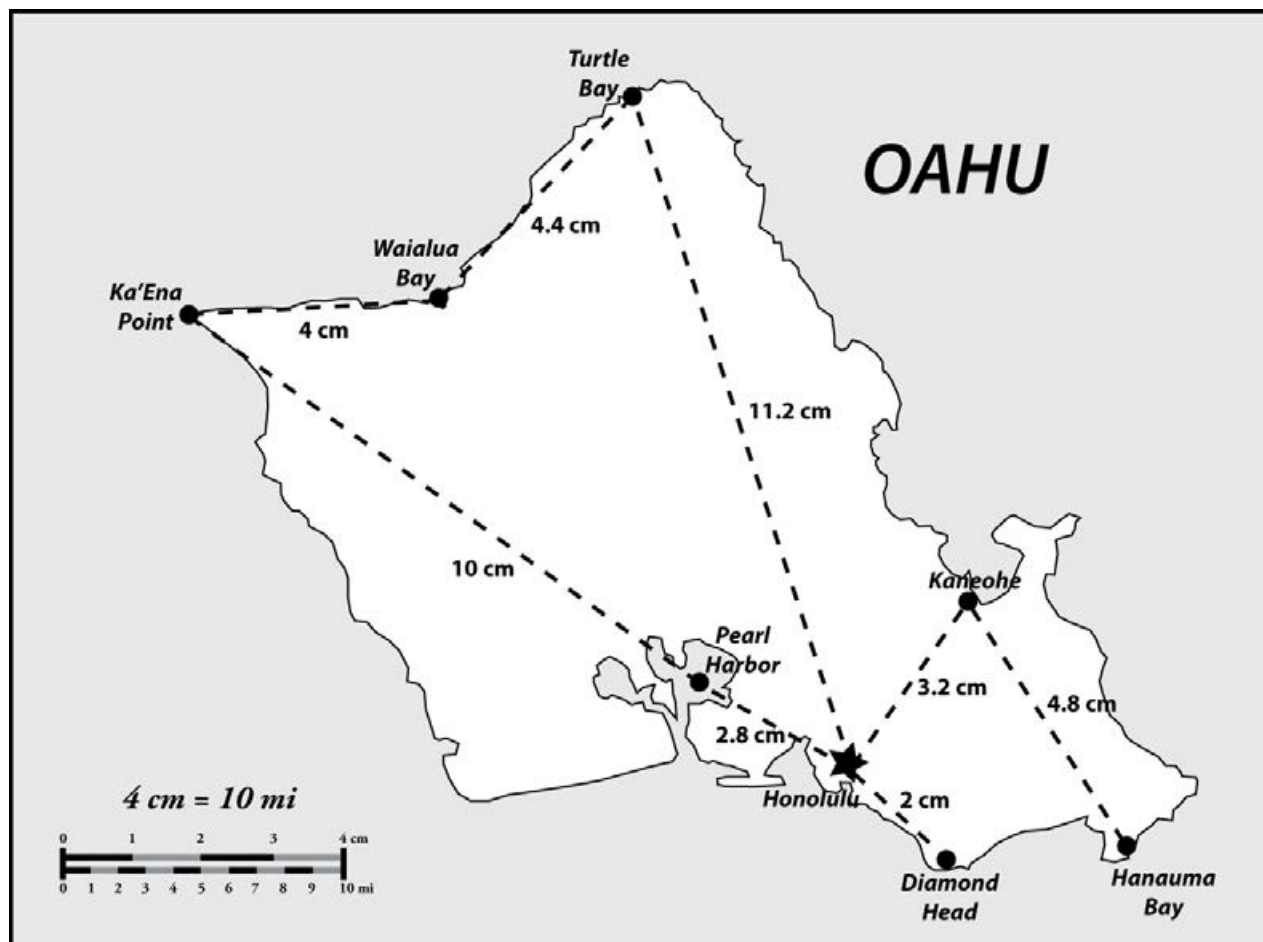
- 5** A factory can make 20 toasters in a half-hour (0.5 hrs) How many toasters can the factory make in 6.5 hours?

- 6** On a scaled drawing, a building measures 4.5 cm tall. If the scale of the drawing is 25 meters per 2 cm, how tall is the actual building?

Scaled Drawing Problems - page 1

PRO 5

Instructions: Use this map to answer the questions below and on the following page.



note: all measurements are approximate, printout may not be to scale

- 1** How many miles is it from Honolulu to Diamond Head?

- 2** How many miles is it from Honolulu to Pearl Harbor?

$$\frac{4 \text{ cm}}{10 \text{ mi}} = \frac{2 \text{ cm}}{n \text{ mi}}$$

$$4 \times n = 10 \times 2$$

$$\frac{4 \cancel{\times} n}{\cancel{4}} = \frac{20}{4}$$

$$n = 5 \text{ miles}$$

Scaled Drawing Problems - page 2

PRO 6

Instructions: Use the map on the previous page to answer these questions.



see previous page

- 3 How many miles is it from Honolulu to Turtle Bay?
- 4 How many miles is it from Turtle Bay to Waialua Bay?
- 5 How many miles is it from Pearl Harbor to Ka'Ena Point?
- 6 How many miles is it from Honolulu to Kaneohe?
- 7 How many miles is it from Kaneohe to Hanauma Bay?
- 8 How many miles is it from Ka'Ena Point to Waialua Bay?