Writing Proportions

Solving Proportions

Scale Drawings

Similar Figures

Example 1:

$$\frac{8}{x} = \frac{6}{15}$$

Example 2:

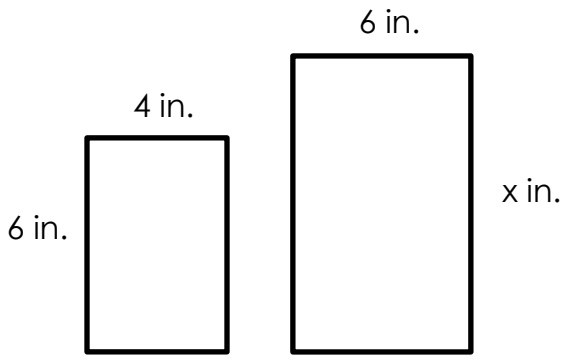
$$\frac{x}{20} = \frac{8}{4}$$

Example 3:

A utility worker is 5.5 feet tall and is casting a shadow 4 feet long. At the same time, a nearby utility pole casts a shadow 20 feet long. Write and solve a proportion to find the height of the utility pole.

Example 4:

Find the value of x.



Example 5:

The length of an object on a scale drawing is 2cm, and its actual length is 8m. The scale is 1cm: ▢ m. What is the scale?

Example 6:

A model of a 27 ft tall house was made using a scale of 2 in: 3 ft. What is the height of the model?

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Example 1:

$$\frac{8}{x} = \frac{6}{15}$$

$6x = 8(15)$

$6x = 120$

$x = 20$

Example 2:

$$\frac{x}{20} = \frac{8}{4}$$

$4x = 8(20)$

$4x = 160$

$x = 40$

Example 3:

A utility worker is 5.5 feet tall and is casting a shadow 4 feet long. At the same time, a nearby utility pole casts a shadow 20 feet long. Write and solve a proportion to find the height of the utility pole.

$$\frac{5.5\text{ft}}{4\text{ft}} = \frac{x}{20\text{ ft}}$$

$4x = 20(5.5)$

$4x = 110$

$x = 27.5$

Example 4:

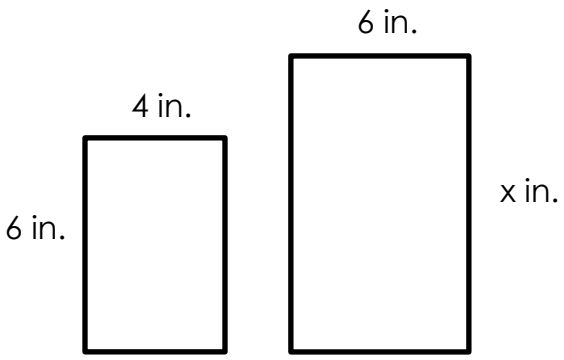
Find the value of x.

$$\frac{4\text{ in}}{6\text{ in}} = \frac{6\text{ in}}{x\text{ in}}$$

$4x = 6(6)$

$4x = 36$

$x = 9$ in



Example 5:

The length of an object on a scale drawing is 2cm, and its actual length is 8m. The scale is 1cm: ▒ m. What is the scale?

$$\frac{2\text{ cm}}{1\text{cm}} = \frac{8\text{m}}{x\text{ m}}$$

$2x = 8(1)$

$2x = 8$

$x = 4$m

Example 6:

A model of a 27 ft tall house was made using a scale of 2 in: 3 ft. What is the height of the model?

$$\frac{2\text{ in}}{x\text{ in}} = \frac{3\text{ ft}}{27\text{ ft}}$$

$3x = 2(27)$

$3x = 54$

$x = 18$ in