6-6 Scale Drawings and Models

Why?

a.) $\frac{1 \text{ sq.}}{7 \text{ ft}} = \frac{24 \text{ sq}}{n}$ $n = 168 \text{ ft}$

b.) $\frac{7 \text{ ft.}}{1 \text{ sq.}} = \frac{n \text{ ft}}{10 \text{ sq.}}$ $n = 70$

Scale - a ratio comparing the length of the drawing/model to the length of the actual.

scale = 1 ____(unit)

Scale factor - the # you multiply by to get the enlargement or reduction.

Scales are written so that the unit length of the drawing/model are listed first.

$$\frac{\text{model}}{\text{actual}} \quad \frac{5 \text{ in.}}{17 \text{ ft.}} = \frac{1 \text{ in}}{3\frac{2}{5} \text{ ft.}}$$

Scale factor

must be written w/ the same units

$\frac{1 \text{ in.}}{2 \text{ ft}} = \frac{1 \text{ in.}}{24 \text{ in.}}$ 1:24

$\frac{1 \text{ ft.}}{12 \text{ in.}} \quad \frac{12 \text{ in}}{1 \text{ ft.}} \quad \frac{2 \text{ ft}}{1} \times \frac{12 \text{ in}}{1 \text{ ft}} = 24 \text{ in}$

$$\frac{\text{scale}}{\frac{\text{model}}{\text{actual}}} = \frac{1\text{ in}}{6\text{ ft.}} = \frac{11.4\text{ in}}{68.4\text{ ft.}}$$

1 in = 6 ft. scale

Scale factor = same units

$$\frac{1\text{ in}}{6\text{ ft.}} = \frac{1\text{ in}}{72\text{ in.}} = \frac{11.4\text{ in}}{820.8\text{ in.}}$$

$$\frac{820\text{ in}}{12\text{ in}} = 68.4\text{ ft.}$$

Always reduce

$$\frac{1p}{15¢} = \frac{3p}{45¢} = \$\frac{8}{1.20}$$