# Reteaching 4-6

**Scale Models and Maps**

A carpenter is making some furniture based on tiny furniture from an old dollhouse. The *scale* of the models is $\frac{5}{2}$ in. : 1 ft. The height of a footstool in the dollhouse is 3 in. What is the height of the carpenter's footstool?

① Write a proportion. Let $h$ = height of the carpenter's footstool. Be sure the terms of the ratios match.

$$\frac{\frac{5}{2}}{1} = \frac{3}{h} \quad \frac{\text{model height (in.)}}{\text{actual height (ft)}}$$

② Use cross products.

$$\frac{5}{2}h = 3$$

③ Solve.

$$h = \frac{6}{5}$$

$$h = 1\frac{1}{5}$$

The height of the carpenter's footstool is $1\frac{1}{5}$ ft.

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**Write a proportion, then solve.** **Label your answers.**

**1.** The carpenter wants to make a dresser based on the dollhouse furniture. The scale is $\frac{5}{2}$ in. : 1 ft. The height of the dresser in the dollhouse is 10 in. What is the height of the carpenter's dresser?

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**2.** The carpenter uses colonial doll furniture with a scale of $\frac{9}{2}$ in. : 1 ft as a model. The length of a doll's bed is 27 in. What is the length of the carpenter's bed?

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**3.** The scale of some Victorian doll furniture is $\frac{15}{4}$ in. : 1 ft. The height of the doll's table is 12 in. What is the height of the carpenter's table?

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**4.** The scale of some modern doll furniture is $\frac{7}{2}$ in. : 1 ft. The length of a doll's sofa is 28 in. What is the length of the carpenter's sofa?

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**5.** The carpenter wants to make a desk like a doll's desk that is $10\frac{1}{2}$ in. high. The scale is $\frac{7}{2}$ in. : 1 ft. What is the height of the carpenter's desk?

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**6.** Ruth makes a scale drawing of her room. She uses the scale $\frac{3}{2}$ in. : 1 ft. In the drawing, the dimensions of her room are 18 in. by 24 in. What are the actual dimensions of her room?

_____ **and** _____