

HW: Worksheet

Warm up:

You are having a house built and the architect gave you a blueprint of the master bedroom. If the bedroom is 5in x 6in on the blueprint and it was made with a scale of 2in:7ft, what is the area of the bedroom?

$$\frac{2}{7} = \frac{5}{x}$$

$$\frac{2x}{2} = \frac{35}{2}$$

$$x = 17.5 \text{ ft}$$

$$\frac{2}{7} = \frac{6}{x}$$

$$\frac{2x}{2} = \frac{42}{2}$$

$$x = 21 \text{ ft}$$

$$17.5 \cdot 21 =$$

$$367.5 \text{ ft}^2$$

McQuiz

$$(10) \quad 4 - \underline{3(5x - 7)}$$

$$\underline{4} - 15x + \underline{21}$$

$$\textcircled{-15x + 25}$$

⑧

$$-2\frac{2}{3} = 5 + \frac{4}{5}x$$

$$\frac{5}{4} \left(-2\frac{2}{3} \right) = \left(\frac{4}{5}x \right) \frac{5}{4}$$

$$-\frac{115}{12} = x$$

$$\boxed{-9\frac{7}{12} = x}$$

$$\begin{array}{r} \textcircled{5} \quad 4 - 5x = -16 \\ -4 \qquad \qquad -4 \\ \hline -5x = -20 \\ \hline -5 \qquad \qquad -5 \\ \hline \textcircled{x = 4} \end{array}$$

Two cities are 3in apart on a map. The map was made with a scale of 1in:5mi. If you were to make another map with a scale of 3in:8mi, how far apart would the cities be?

$$\frac{1}{5} \times \frac{3}{x}$$
$$x = 15$$
$$15 \text{ mi}$$

$$\frac{3}{8} \times \frac{x}{15}$$
$$\frac{8x}{8} = \frac{45}{8}$$
$$x = 5.625 \text{ in}$$
$$5\frac{5}{8} \text{ in}$$

The blueprint for a rectangular classroom is 3in long and 2in wide. It was made with a scale of 1in:10ft. If you were to make a new blueprint with a scale of 1/4in:5ft, what would be the dimensions of the classroom?

$$\frac{1}{10} \times \frac{3}{x}$$

$$x = 30$$

$$30 \text{ ft}$$

$$\frac{1}{10} \times \frac{2}{x}$$

$$x = 20$$

$$20 \text{ ft}$$

$$\frac{1/4}{5} \times \frac{x}{30}$$

$$5x = \frac{30}{4}$$

$$\frac{5x}{5} = \frac{15}{2}$$

$$x = 1\frac{1}{2}$$

$$\frac{1/4}{5} \times \frac{x}{20}$$

$$5x = 5$$

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

$$x = 1$$

$$\frac{15}{2} \div 5$$

$$\frac{15}{2} \cdot \frac{1}{5} = \frac{15}{10} = \frac{15}{10} = 1\frac{1}{2}$$

$1\frac{1}{2} \text{ in} \times 1 \text{ in}$

A scale model of a car is 16cm long. It was made with a scale of 2:15. What would the length of the model car be if the scale was 3:10 instead?

$$\begin{array}{r} \frac{2}{15} \times \frac{16}{x} \\ \frac{2x = 240}{2} \\ \hline x = 120 \\ 120\text{cm} \end{array}$$

$$\begin{array}{r} \frac{3}{10} \times \frac{x}{120} \\ 10x = 360 \\ \frac{10}{10} \quad \frac{10}{10} \\ \hline x = 36 \\ \textcircled{36\text{cm}} \end{array}$$

- 1) You are finishing your basement and just received the blueprint from an architect. On the blueprint, the basement is 12cm x 17cm. If the blueprint was made with a scale of 2cm:3m, what is the area of the basement?

- 2) Two monuments are 5 inches apart on a map. The scale on the map is 1/8in:4mi. If you were to make a new map with a scale of 3in:10mi, how far apart would the ~~cities~~ monuments be?

- 3) On a scale drawing of a rectangular pool, the width is 4in and the length is 6in. The scale is 3in:7ft. If you were to make a new scale drawing with a scale of 2in: 9ft, what would be the dimensions of the pool on the new drawing?

1) You are finishing your basement and just received the blueprint from an architect. On the blueprint, the basement is 12cm x 17cm. If the blueprint was made with a scale of 2cm:3m, what is the area of the basement?

$$\frac{2}{3} \times \frac{12}{x}$$

$$\frac{2x = 36}{2 \quad 2}$$

$$x = 18m$$

$$\frac{2}{3} \times \frac{17}{x}$$

$$\frac{2x = 51}{2 \quad 2}$$

$$x = 25.5m$$

$$18 \cdot 25.5 = 459m^2$$

2) Two monuments are 5 inches apart on a map. The scale on the map is $\frac{1}{8}\text{in}:4\text{mi}$. If you were to make a new map with a scale of $3\text{in}:10\text{mi}$, how far apart would the cities be?

$$\frac{\frac{1}{8} \times 5}{4} = \frac{20}{1}$$

$$\frac{1}{8} \times 5 = 20$$

$$X = 160\text{mi}$$

$$\frac{3 \times X}{10} = \frac{480}{10}$$

$$10X = 480$$

$$\frac{10X}{10} = \frac{480}{10}$$

$$X = 48$$

$$48\text{in}$$

3) On a scale drawing of a rectangular pool, the width is 4in and the length is 6in. The scale is 3in:7ft. If you were to make a new scale drawing with a scale of 2in: 9ft, what would be the dimensions of the pool on the new drawing?

$$\frac{3}{7} \times \frac{4}{x}$$

$$\frac{3x}{3} = \frac{28}{3}$$

$$x = \frac{28}{3}$$

$$\frac{3}{7} \times \frac{6}{x}$$

$$\frac{3x}{3} = \frac{42}{3}$$

$$x = 14$$

$$\frac{2}{9} \times \frac{x}{\frac{28}{3}}$$

$$\frac{9x}{9} = \frac{56}{9}$$

$$x = \frac{56}{9}$$

$$\frac{2}{9} \times \frac{x}{14}$$

$$\frac{9x}{9} = \frac{28}{9}$$

$$x = \frac{28}{9}$$

$$2\frac{2}{9} \text{ in} \times 3\frac{1}{9} \text{ in}$$