EXAMPLES 2 and 3
on pp. 163–164
for Exs. 38–44

EXERCISES

Solve the proportion. Check your solution.

38. $\frac{56}{16} = \frac{x}{2}$ **39.** $\frac{y}{9} = \frac{25}{15}$ **40.** $\frac{2}{7} = \frac{m}{91}$

41. $\frac{5z}{3} = \frac{105}{6}$ **42.** $\frac{9}{4} = \frac{3a}{20}$ **43.** $\frac{c+2}{45} = \frac{8}{5}$

44. PAINTING The label on a can of paint states that one gallon of the paint will cover 560 square feet. How many gallons of that paint are needed to cover 1400 square feet?

3.6 Solve Proportions Using Cross Products

pp. 168–173

EXAMPLE

Solve the proportion $\frac{3}{10} = \frac{12}{x}$.

$\frac{3}{10} = \frac{12}{x}$ Write original proportion.

$3 \cdot x = 10 \cdot 12$ Cross products property

$3x = 120$ Simplify.

$x = 40$ Divide each side by 3.

EXAMPLE

A map has a scale of 1 cm : 15 km. The distance between two cities on the map is 7.2 centimeters. Estimate the actual distance between the cites.

$\frac{1}{15} = \frac{7.2}{d}$ ← centimeters / ← kilometers

$1 \cdot d = 15 \cdot 7.2$ Cross products property

$d = 108$ Simplify.

▶ The distance between the two cities is about 108 kilometers.

EXAMPLES 1, 3, and 4
on pp. 168–170
for Exs. 45–52

EXERCISES

Solve the proportion. Check your solution.

45. $\frac{5}{7} = \frac{20}{r}$ **46.** $\frac{6}{z} = \frac{12}{5}$ **47.** $\frac{126}{56} = \frac{9}{4b}$

48. $\frac{10}{3m} = \frac{-5}{6}$ **49.** $\frac{n+8}{5n-2} = \frac{3}{8}$ **50.** $\frac{5-c}{3} = \frac{2c+2}{-4}$

51. TYPING RATES A student can type 65 words in 2 minutes. How many words can the student type in 20 minutes?

52. MAPS A map has a scale of 1 cm : 12 km. The distance between two cities on the map is 6.8 centimeters. Estimate the actual distance between the cities.