

Solving Proportions

Determine whether each set of ratios are proportions. Find cross products

1) $\frac{5}{8} = \frac{20}{32}$ 160

proportion

2) $\frac{8}{50} = \frac{1}{43}$ $334 \neq 50$

Not a proportion

3) $\frac{12}{32} = \frac{8}{3}$ $36 \neq 256$

Not a proportion

Solve each proportion. Find the cross products and solve for x.

4) $\frac{9}{15} = \frac{x}{3}$ $15x = 9 \cdot 3$
 $15x = 27$
 $\frac{15x}{15} = \frac{27}{15}$
 $x = 1.8$

5) $\frac{7.5}{6} = \frac{3.6}{x}$
 $7.5x = 6(3.6)$
 $7.5x = 21.6$
 $\frac{7.5x}{7.5} = \frac{21.6}{7.5}$
 $x = 2.88$

6) $\frac{12}{25} = \frac{x}{40}$
 $25x = 12(40)$
 $25x = 480$
 $\frac{25x}{25} = \frac{480}{25}$
 $x = 19.2$

7) $\frac{1}{x} = \frac{33}{132}$
 $33x = 132$
 $\frac{33x}{33} = \frac{132}{33}$
 $x = 4$

8) $\frac{x}{5} = \frac{16}{40}$
 $40x = 16(5)$
 $40x = 80$
 $\frac{40x}{40} = \frac{80}{40}$
 $x = 2$

9) $\frac{x}{6.5} = \frac{0.2}{1.3}$
 $1.3x = (6.5)(0.2)$
 $1.3x = 1.3$
 $\frac{1.3x}{1.3} = \frac{1.3}{1.3}$
 $x = 1$

10) $\frac{2.1}{42} = \frac{7}{x}$ $2.1x = 42 \cdot 7$
 $2.1x = 294$
 $\frac{2.1x}{2.1} = \frac{294}{2.1}$
 $x = 140$