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Dec 13, 2022

3.4 Solving Proportions

Solve each proportion by cross multiplying. Note: most answers will be decimals.

1) $\frac{m}{3} = \frac{2}{5}$

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

$$m = 1.2$$

2) $\frac{8}{6} = \frac{5}{n}$

3) $\frac{90}{k} = \frac{87}{38}$

$$\frac{87k}{87} = \frac{3420}{87}$$

$$k = 39.3$$

4) $\frac{35}{54} = \frac{m}{27}$

5) $\frac{7}{2} = \frac{(x+10)}{5}$

$$2(x+10) = 35$$

$$2x + 20 = 35$$

$$\frac{2x}{2} = \frac{15}{2} \quad x = 7.5$$

7) $\frac{39}{67} = \frac{(x+76)}{83}$

$$67x + 5092 = 3237$$

$$\frac{67x}{67} = \frac{-1855}{67}$$

$$x = -27.7$$

6) $\frac{10}{k+8} = \frac{6}{10}$

8) $\frac{83}{87} = \frac{k+24}{4}$

$$9) \frac{b}{5} = \frac{b+5}{9}$$

$$9b = 5b + 25$$

$$4b = 25$$

$$b = 6.25$$

$$10) \frac{3b}{b+3} = \frac{3}{6}$$

$$11) \frac{x}{82} = \frac{x-78}{94}$$

$$94x = 82x - 6396$$

$$12x = -6396$$

$$x = -533$$

$$12) \frac{b}{2} = \frac{b+36}{5}$$

$$13) \frac{7}{(m+10)} = \frac{4}{(m-7)}$$

$$4(m+10) = 7(m-7)$$

$$4m+40 = 7m-49$$

$$-3m = -89$$

$$m = 29.7$$

$$14) \frac{10}{x-10} = \frac{2}{x-7}$$

$$15) \frac{v+57}{(v-14)} = \frac{61}{29}$$

$$29(v+57) = 61(v-14)$$

$$29v+1653 = 61v-854$$

$$-32v = -2507$$

$$v = 78.3$$

$$16) \frac{5}{87} = \frac{n+57}{n-14}$$