

Solving Proportions

Cross multiply, solve, and check excluded denominator values in the original equation. Give the exact answer as a simplified fraction.

1. Solve for x.

$$\frac{26}{x+10} = \frac{1}{4}$$

Cross multiply and solve:

2. Solve for z.

$$\frac{8}{z-22} = \frac{11}{z-2}$$

Cross multiply and solve:

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3. Solve for c.

$$\frac{c}{3} = \frac{c-28}{4}$$

Cross multiply and solve:

4. Solve for k.

$$\frac{29}{8} = \frac{5}{k}$$

Cross multiply and solve:

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5. Solve for r.

$$\frac{7}{9} = \frac{6r-19}{19}$$

Cross multiply and solve:

6. Solve for y.

$$\frac{20}{y+5} = \frac{1}{3}$$

Cross multiply and solve:

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7. Solve for t.

$$\frac{5}{8} = \frac{4t-13}{13}$$

Cross multiply and solve:

8. Solve for m.

$$\frac{23}{6} = \frac{7}{m}$$

Cross multiply and solve:

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9. Solve for v.

$$\frac{v}{5} = \frac{v-18}{6}$$

Cross multiply and solve:

10. Solve for w.

$$\frac{9}{w-10} = \frac{10}{w+2}$$

Cross multiply and solve:

Solving Proportions

Worked Answer Key

Cross multiply, solve, and check excluded denominator values in the original equation. Give the exact answer as a simplified fraction.

1. Solve for x.

$$\frac{26}{x+10} = \frac{1}{4}$$

$$(26)(4) = (1)(x+10)$$

$$-1x + 94 = 0$$

x=94 is not -10 and satisfies the original cross-product.

$$x = 94$$

2. Solve for z.

$$\frac{8}{z-22} = \frac{11}{z-2}$$

$$(8)(z-2) = (11)(z-22)$$

$$-3z + 226 = 0$$

z=226/3 is not 22 or 2 and satisfies the original cross-product.

$$z = 226/3$$

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Worked Answer Key

Cross multiply, solve, and check excluded denominator values in the original equation. Give the exact answer as a simplified fraction.

3. Solve for c.

$$\frac{c}{3} = \frac{c-28}{4}$$

$$(c)(4) = (c-28)(3)$$

$$1c + 84 = 0$$

c=-84 is not an excluded denominator value and satisfies the original cross-product.

$$c = -84$$

4. Solve for k.

$$\frac{29}{8} = \frac{5}{k}$$

$$(29)(k) = (5)(8)$$

$$29k + -40 = 0$$

k=40/29 is not 0 and satisfies the original cross-product.

$$k = 40/29$$

Solving Proportions

Worked Answer Key

Cross multiply, solve, and check excluded denominator values in the original equation. Give the exact answer as a simplified fraction.

5. Solve for r.

$$\frac{7}{9} = \frac{6r-19}{19}$$

$$(7)(19) = (6r-19)(9)$$

$$-54r + 304 = 0$$

$r=152/27$ is not an excluded denominator value and satisfies the original cross-product.

$$r = 152/27$$

6. Solve for y.

$$\frac{20}{y+5} = \frac{1}{3}$$

$$(20)(3) = (1)(y+5)$$

$$-1y + 55 = 0$$

$y=55$ is not -5 and satisfies the original cross-product.

$$y = 55$$

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Worked Answer Key

Cross multiply, solve, and check excluded denominator values in the original equation. Give the exact answer as a simplified fraction.

7. Solve for t.

$$\frac{5}{8} = \frac{4t-13}{13}$$

$$(5)(13) = (4t-13)(8)$$

$$-32t + 169 = 0$$

t=169/32 is not an excluded denominator value and satisfies the original cross-product.

$$\mathbf{t = 169/32}$$

8. Solve for m.

$$\frac{23}{6} = \frac{7}{m}$$

$$(23)(m) = (7)(6)$$

$$23m + -42 = 0$$

m=42/23 is not 0 and satisfies the original cross-product.

$$\mathbf{m = 42/23}$$

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Worked Answer Key

Cross multiply, solve, and check excluded denominator values in the original equation. Give the exact answer as a simplified fraction.

9. Solve for v.

$$\frac{v}{5} = \frac{v-18}{6}$$

$$(v)(6) = (v-18)(5)$$

$$1v + 90 = 0$$

v=-90 is not an excluded denominator value and satisfies the original cross-product.

$$\mathbf{v = -90}$$

10. Solve for w.

$$\frac{9}{w-10} = \frac{10}{w+2}$$

$$(9)(w+2) = (10)(w-10)$$

$$-1w + 118 = 0$$

w=118 is not 10 or -2 and satisfies the original cross-product.

$$\mathbf{w = 118}$$