



SOLVING ALGEBRAIC PROPORTIONS

The Weight Room

Solve each proportion, and leave the answer as a fraction in simplest form.

1. $\frac{m+6}{9} = \frac{6}{8}$

$$8(m+6) = 54$$

$$8m = 6$$

$$m = \frac{6}{8} = \frac{3}{4}$$

2. $\frac{4x-9}{3} = \frac{2x-7}{5}$

$$20x - 45 = 6x - 21$$

$$14x = 24$$

$$x = \frac{24}{14} = \frac{12}{7}$$

3. $\frac{5x-1}{4x+2} = \frac{8}{5}$

$$25x - 5 = 32x + 16$$

$$-21 = 7x$$

$$-3 = x$$

4. $\frac{9}{7} = \frac{6k+2}{5k-3}$

$$45k - 27 = 42k + 14$$

$$3k = 41$$

$$k = \frac{41}{3}$$

5. $\frac{2a-5}{9} = \frac{a-4}{8}$

$$16a - 40 = 9a - 36$$

$$7a = 4$$

$$a = \frac{4}{7}$$

6. $\frac{8x+3}{6} = \frac{4x-1}{3}$

$$24x + 9 = 24x - 6$$

$$0x = -15$$

NO SOLUTION

Solve each proportion, and round decimal answers to the nearest hundredth.

7. $\frac{4.9}{b} = \frac{8.1}{7.6}$

$$8.1b = 37.24$$

$$b \approx 4.60$$

8. $\frac{7x-3}{5} = \frac{2x+1}{3}$

$$21x - 9 = 10x + 5$$

$$11x = 14$$

$$x = \frac{14}{11} \approx 1.27$$

9. $\frac{4.2x}{3} = \frac{1.2x+5}{2}$

$$8.4x = 3.6x + 15$$

$$4.8x = 15$$

$$x = 3.125 \approx 3.13$$

10. $\frac{8x-1}{3} = \frac{5x+2}{9}$

$$72x - 9 = 15x + 6$$

$$57x = 15$$

$$x = \frac{15}{57} = \frac{5}{19} \approx 2.6$$