

BC Math 9 Multi-Step Equations

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1. $2x = 8$
 $x = 4$

2. $12 = -3a$
 $3a = 12$
 $a = 4$

3. $\frac{x}{3} = 5$
 $x = 15$

4. $\frac{x}{2} = \frac{3}{5}$
 $5x = 6$
 $x = 6/5$

5. $\frac{2}{x} = 5$
 $x = 2/5$

6. $\frac{2}{x+1} = \frac{3}{4}$
 $3(x+1) = 8$
 $3x + 3 = 8$
 $3x = 5$
 $x = 5/3$

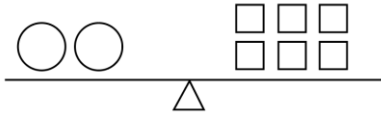
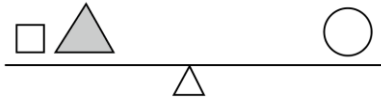
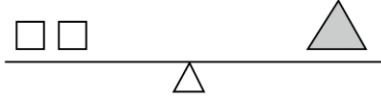
7. $\frac{5}{-7} = \frac{1}{2-3x}$
 $5(2-3x) = -7$
 $10 - 15x = -7$
 $17 = 15x$
 $x = 17/15$

8. $2 - x = 3(x + 1)$
 $2 - x = 3x + 3$
 $-1 = 4x$
 $x = -1/4$

9. $2x + \frac{x}{2} + 1 = 5$
 $4x + x + 2 = 10$
 $5x = 8$
 $x = 8/5$

10. $1 + 2x = 3 - \frac{2}{3}(x + 6)$
 $3 + 6x = 9 - 2(x + 6)$
 $6x = 6 - 2x - 12$
 $8x = -6$
 $x = -3/4$

11. Challenge 1: If the weight one square is 2 kg. How heavy is the weight of a dozen circles?



$$2s = t$$

$$s + t = c$$

$$s + (2s) = c$$

$$c = 3s = 3(2) = 6$$

$$12c = 12 \times 6 = 72 \text{ kg}$$

12. Challenge 2:

$$\left(\frac{2}{3}\right)^2 - \left(-\frac{x}{3}\right) \div \frac{2x}{5} - \frac{(-1)^0}{\sqrt{\frac{1}{121}}} = \frac{1}{\frac{1}{x}} - 0!$$

$$\frac{4}{9} + \frac{x}{3} \times \frac{5}{2x} - \frac{1}{\frac{1}{11}} = x - 1$$

$$\frac{4}{9} + \frac{5}{6} - 11 = x - 1$$

Multiply by 18

$$8 + 15 - 198 = 18x - 18$$

$$-157 = 18x$$

$$x = -157/18$$