

Solving Multi-Step Equations

Solve each equation.

1) $4n - 2n = 4$

2) $-12 = 2 + 5v + 2v$

3) $3 = x + 3 - 5x$

4) $x + 3 - 3 = -6$

5) $-12 = 3 - 2k - 3k$

6) $-1 = -3r + 2r$

7) $6 = -3(x + 2)$

8) $-3(4r - 8) = -36$

9) $24 = 6(-x - 3)$

10) $75 = 3(-6n - 5)$

$$11) -3(1 + 6r) = 14 - r$$

$$12) 6(6v + 6) - 5 = 1 + 6v$$

$$13) -4k + 2(5k - 6) = -3k - 39$$

$$14) -16 + 5n = -7(-6 + 8n) + 3$$

$$15) 10p + 9 - 11 - p = -2(2p + 4) - 3(2p - 2)$$

$$16) -10n + 3(8 + 8n) = -6(n - 4)$$

$$17) 10(x + 3) - (-9x - 4) = x - 5 + 3$$

$$18) 12(2k + 11) = 12(2k + 12)$$

$$19) -12(x - 12) = -9(1 + 7x)$$

$$20) -11 + 10(p + 10) = 4 - 5(2p + 11)$$

Critical thinking question:

21) Explain two ways you could solve $20 = 5(-3 + x)$

Solving Multi-Step Equations

Solve each equation.

1) $4n - 2n = 4$

 $\{2\}$

2) $-12 = 2 + 5v + 2v$

 $\{-2\}$

3) $3 = x + 3 - 5x$

 $\{0\}$

4) $x + 3 - 3 = -6$

 $\{-6\}$

5) $-12 = 3 - 2k - 3k$

 $\{3\}$

6) $-1 = -3r + 2r$

 $\{1\}$

7) $6 = -3(x + 2)$

 $\{-4\}$

8) $-3(4r - 8) = -36$

 $\{5\}$

9) $24 = 6(-x - 3)$

 $\{-7\}$

10) $75 = 3(-6n - 5)$

 $\{-5\}$

11) $-3(1 + 6r) = 14 - r$

 $\{-1\}$

12) $6(6v + 6) - 5 = 1 + 6v$

 $\{-1\}$

13) $-4k + 2(5k - 6) = -3k - 39$

 $\{-3\}$

14) $-16 + 5n = -7(-6 + 8n) + 3$

 $\{1\}$

15) $10p + 9 - 11 - p = -2(2p + 4) - 3(2p - 2)$

 $\{0\}$

16) $-10n + 3(8 + 8n) = -6(n - 4)$

 $\{0\}$

17) $10(x + 3) - (-9x - 4) = x - 5 + 3$

 $\{-2\}$

18) $12(2k + 11) = 12(2k + 12)$

No solution.

19) $-12(x - 12) = -9(1 + 7x)$

 $\{-3\}$

20) $-11 + 10(p + 10) = 4 - 5(2p + 11)$

 $\{-7\}$ **Critical thinking question:**

21) Explain two ways you could solve $20 = 5(-3 + x)$

(1) Divide by 5 first, or (2) Distribute the 5 first.