

## 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.