

Name Key

Equations distributing and combining on the same side.

Solve for x.

1) $5(x + 5) = 35$

$$5x + 25 = 35$$

$$5x = 10$$

$$\boxed{x = 2}$$

2) $18 = 3(x - 4)$

$$18 = 3x - 12$$

$$30 = 3x$$

$$\boxed{10 = x}$$

3) $3(x + 4) = 18$

$$3x + 12 = 18$$

$$3x = 6$$

$$\boxed{x = 2}$$

4) $-3(x + 5) + x = 35$

$$-3x - 15 + x = 35$$

$$-2x - 15 = 35$$

$$-2x = 50$$

$$\boxed{x = -25}$$

5) $24 = 6(x + 4) - 2x$

$$24 = 6x + 24 - 2x$$

$$24 = 4x + 24$$

$$0 = 4x$$

$$\boxed{0 = x}$$

6) $x + 9 + 2x = -6$

$$3x + 9 = -6$$

$$3x = -15$$

$$\boxed{x = -5}$$

7) $6 = 10 + 2(x + 3)$

$$6 = 10 + 2x + 6$$

$$6 = 2x + 16$$

$$-10 = 2x$$

$$\boxed{-5 = x}$$

8) $21 = 6(x + 1) - 3x$

$$21 = 6x + 6 - 3x$$

$$21 = 3x + 6$$

$$15 = 3x$$

$$\boxed{5 = x}$$

9) $-5(x - 6) + 10 = 25$

$$-5x + 30 + 10 = 25$$

$$-5x + 40 = 25$$

$$-5x = -15$$

$$\boxed{x = 3}$$

$$10) 2(x - 6) = 24$$

$$2x - 12 = 24$$

$$2x = 36$$

$$\boxed{x = 18}$$

$$11) 36 = -(x - 4) + 3x$$

$$36 = -x + 4 + 3x$$

$$36 = 2x + 4$$

$$32 = 2x$$

$$\boxed{16 = x}$$

$$12) 4(x + 5) - 2x = -48$$

$$4x + 20 - 2x = -48$$

$$2x + 20 = -48$$

$$2x = -68$$

$$\boxed{x = -34}$$

$$13) 48 = 4(x + 6) + 2x$$

$$48 = 4x + 24 + 2x$$

$$48 = 6x + 24$$

$$24 = 6x$$

$$\boxed{4 = x}$$

$$14) -3(x - 4) + x = 24$$

$$-3x + 12 + x = 24$$

$$-2x + 12 = 24$$

$$-2x = 12$$

$$\boxed{x = -6}$$

$$15) 2(x - 9) + x = 30$$

$$2x - 18 + x = 30$$

$$3x - 18 = 30$$

$$3x = 48$$

$$\boxed{x = 16}$$