

Solve and check each equation for the indicated variable.

1.  $2(n-7) + 3 = 9$

$$2(n) + 2(-7) + 3 = 9$$

$$2n - 14 + 3 = 9$$

$$2n - 11 = 9$$

$$2n - 11 + 11 = 9 + 11$$

$$2n = 20$$

$$\frac{2n}{2} = \frac{20}{2}$$

$$\boxed{n = 10}$$

3.  $4h + 7h - 16 = 6$

$$11h - 16 = 6$$

$$11h - 16 + 16 = 6 + 16$$

$$11h = 22$$

$$\frac{11h}{11} = \frac{22}{11}$$

$$\boxed{h = 2}$$

5.  $-27 = 8x - 5x$  \*can switch sides, but don't have to!

$$8x - 5x = -27$$

$$3x = -27$$

$$\frac{3x}{3} = \frac{-27}{3}$$

$$\boxed{x = -9}$$

7.  $7 - y + 5y = 9$

$$7 + 4y = 9$$

$$7 - 7 + 4y = 9 - 7$$

$$4y = 2$$

$$\frac{4y}{4} = \frac{2}{4}$$

$$\boxed{y = \frac{1}{2}}$$

2.  $0 = 5(k + 9)$

$$0 = 5(k) + 5(9)$$

$$0 = 5k + 45$$

$$0 - 45 = 5k + 45 - 45$$

$$-45 = 5k$$

$$\frac{-45}{5} = \frac{5k}{5}$$

$$\boxed{-9 = k}$$

4.  $3(2n - 7) = 9$

$$3(2n) + 3(-7) = 9$$

$$6n - 21 = 9$$

$$6n - 21 + 21 = 9 + 21$$

$$6n = 30$$

$$\frac{6n}{6} = \frac{30}{6}$$

$$\boxed{n = 5}$$

6.  $4p + 5 - 7p = -1$

$$4p - 7p + 5 = -1$$

$$-3p + 5 = -1$$

$$-3p + 5 - 5 = -1 - 5$$

$$-3p = -6$$

$$\frac{-3p}{-3} = \frac{-6}{-3}$$

$$p = 2$$

$$\boxed{p = 2}$$

8.  $8e + 3(5 - e) = 10$

$$8e + 3(5) + 3(-e) = 10$$

$$8e + 15 - 3e = 10$$

$$8e - 3e + 15 = 10$$

$$5e + 15 = 10$$

$$5e + 15 - 15 = 10 - 15$$

$$5e = -5$$

$$\frac{5e}{5} = \frac{-5}{5}$$

$$e = -1$$

$$\boxed{e = -1}$$