

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Simplify each expression:**

1.  $8p + 4p$

$12p$

2.  $k - 8 - 5$

$k - 13$

3.  $8n - 4n$

$4n$

4.  $-1 + 3(1 - 6x)$

$-1 + 3 - 18x = -18x + 2$

5.  $4 + 8(-2n + 3)$

$4 - 16n + 24 = -16n + 28$

6.  $-7(-7 + 3m) + 1$

$49 - 21m + 1 = -21m + 50$

**Solve each equation for the given variable:**

7.  $k + 4 = 8$

$-4 -4$   
 $k = 4$

8.  $20 = 19 - n$

$-19 -19$   
 $1 = -n$   
 $-1 -1$   
 $-1 = n$

9.  $-13 + p = 0$

$+13 +13$   
 $p = 13$

10.  $x + 28 = -2$

$-28 -28$   
 $x = -30$

11.  $2 = -3n - 4 + n$

$2 = -2n - 4$   
 $+4 +4$   
 $6 = -2n$   
 $6 = -2n$   
 $3 = -n$

12.  $r - 1 + r = 3$

$2r - 1 = 3$   
 $+1 +1$   
 $2r = 4$   
 $2 2$   
 $r = 2$

13.  $8 = 4x - 6x$

$8 = -2x$   
 $2 2$   
 $-4 = x$

14.  $-2 = 7(-8 + 2x)$

$-2 = -56 + 14x$   
 $+56 +56$   
 $-54 = 14x$   
 $14 14$   
 $x = \frac{-54}{14} = \frac{-27}{7}$

15.  $-21 - 2b = -3(2b - 1)$

$-21 - 2b = -6b + 3$   
 $+6b +6b$   
 $21 +4b = 3$   
 $+21 +21$   
 $4b = 24$   
 $4 4$   
 $b = 6$

16.  $22 - 2y = -6(1 + y)$

$22 - 2y = -6 - 6y$   
 $+6y +6y$   
 $22 +4y = -6$   
 $-22 -22$   
 $4y = -28$   
 $4 4$   
 $y = -7$

~~$\frac{1}{7}x = \frac{2}{4} \cdot \frac{7}{1}$~~

$x = \frac{14}{4} = \frac{7}{2}$

~~$\frac{r}{7} = \frac{3}{7} \cdot \frac{7}{1}$~~

$r = \frac{21}{7} = 3$