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**Simplifying Expressions:**

For #1 – 6, simplify each expression.

1. $- 2a + 9d - 5a - 6d$ 2.) $5\left(3x + 6y\right) + 4(2x - 9y)$

3.) $6\left(9a - 3b\right)- 8(2a + 4b)$ 4.) $- 3\left(2m + n\right) - (7n - 4m)$

5.) $–\left(3-c\right)-4(c-1)$ 6.) $ \frac{1}{5}\left(10a- 15b\right) + \frac{1}{2} (8b + 4a)$

**Solving Equations:**

For #7 – 12, solve each equation for the given variable.

7.) $13y + 48 = 8y – 47$ 8.) $2x - 3 = 9 - 4x$

9.) $3\left(5w + 4\right) - 4\left(3w - 2\right)= 7$ 10.) $5\left(2r - 7\right) + 6\left(5 - r\right)= 18$

11.) $\frac{ 9x + 6 - 4x }{2}=8$ 12.) $12 \left[ \frac{2}{3}x + \frac{1}{4}x = 22 \right]$

**Solving for a Variable**:

For #13 – 18, solve for the given variable.

13.) $A=\frac{1}{2}b∙h$ (Solve for $b$) 14.) $P =2l + 2w$ (Solve for $w$)

15.) $A = πr^{2}$ (Solve for $r$) 16.) $y = mx + b$ (Solve for $m$)

17.) $F = \frac{9}{5}C + 32$ (Solve for $C$) 18.) $A = \frac{1}{2}\left(b\_{1}+ b\_{2}\right)∙h$ (Solve for $b\_{1}$)

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Block:\_\_\_\_\_\_

**Extra Practice**

Solve each equation.

1. 2. 



3. $5\left(2x - 7\right) + 6\left(5 - x\right)= 18$ 4.

Solve each equation for the indicated variable.

5.  6. 



7. 8.

9. $ V = \frac{1}{3}s^{2}h$ (Solve for $s$) 10. Solve for *x*: 