

**Do Now**

**Simplify the following by combining like terms.**

1) $-4s - 8s$ $-12s$	2) $10x + x$ $11x$	3) $-5 + 7y - 8 - 3y$ $4y - 13$
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**Simplify the following by using the distributive property.**

4) $3(x + 7)$ $3x + 21$	5) $-9(y - 6)$ $-9y + 54$	6) $-(b + 12)$ $-1(b + 12)$ $-1b - 12$
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**Lesson #52 - Simplifying Expressions Using the Distributive Property and Combining Like Terms.**

We can use the distributive property and combining like terms to simplify long and complicated expressions. ALWAYS USE THE DISTRIBUTIVE PROPERTY FIRST, THEN COMBINE LIKE TERMS.

Example 1) Simplify the following:  $3w + 2(w - 1)$

Steps	Example
1) Use the distributive property.	$3w + 2w - 2$
2) Combine Like Terms.	$5w - 2$
3) Write your final answer.	

Directions: Simplify the following algebraic expressions.

<p>1) <math>3 + 2(-3a + 10)</math></p> <p><math>3 - 6a + 20</math></p> <p><math>-6a + 23</math></p>	<p>2) <math>-9 - 3(-9b - 7)</math></p> <p><math>-9 + 27b + 21</math></p> <p><math>12 + 27b</math></p>
<p>3) <math>8 + 6(2a - 1)</math></p> <p><math>8 + 12a - 6</math></p> <p><math>12a + 2</math></p>	<p>4) <math>-3 + 10n + 1n + 6 + 8n</math></p> <p><math>19n + 3</math></p>
<p>5) <math>9(k - 3) - 4</math></p> <p><math>9k - 27 - 4</math></p> <p><math>9k - 31</math></p>	<p>6) <math>-10(n + 10) - 4</math></p> <p><math>-10n - 100 - 4</math></p> <p><math>-10n - 104</math></p>
<p><del>7</del> <math>-6b - 1 - (-2)b</math></p> <p><math>-4b - 1</math></p>	<p>8) <math>a + a + a + a + a</math></p> <p><math>5a</math></p>
<p>9) <math>-9 + 5z - 1z - 5 - 6z</math></p> <p><math>-4z - 14</math></p>	<p>10) <math>-5y + 5 + 4 + 10y</math></p> <p><math>5y + 9</math></p>

<p>11) <math>-3t - 7t + 2 - 3t</math></p> <p><math>-13t + 2</math></p>	<p>12) <math>10(s + 1) + 4</math></p> <p><math>10s + 10 + 4</math></p> <p><math>10s + 14</math></p>
<p>13) <math>-7w + 10w</math></p> <p><math>3w</math></p>	<p>14) <math>-2(y + 3) - 5</math></p> <p><math>-2y - 6 - 5</math></p> <p><math>-2y - 11</math></p>

15) Which of the following expressions is equivalent to  $5(n - 8) + 4n$ ?

A)  $49n$

B)  $9n + 40$

C)  $9n - 40$

D)  $5n - 40$

$5n - 40 + 4n$

$9n - 40$