

LESSON
10-3**Generating Equivalent Expressions****Reteach**

Look at the following expressions: $x = 1x$
 $x + x = 2x$
 $x + x + x = 3x$

The numbers 1, 2, and 3 are called **coefficients** of x .

Identify each coefficient.

1. $8x$ _____

2. $3m$ _____

3. y _____

4. $14t$ _____

An algebraic expression has terms that are separated by $+$ and $-$.
 In the expression $2x + 5y$, the **terms** are $2x$ and $5y$.

Expression	Terms
$8x + 4y$	$8x$ and $4y$
$5m - 2m + 9$	$5m$, $-2m$, and 9
$4a^2 - 2b + c - 2a^2$	$4a^2$, $-2b$, c , and $-2a^2$

Sometimes the terms of an expression can be combined.
 Only **like terms** can be combined.

$2x + 2y$ NOT like terms, the variables are different.

$4a^2 - 2a$ NOT like terms, the exponents are different.

$5m - 2m$ Like terms, the variables and exponents are both the same.

$n^3 + 2n^3$ Like terms, the variables and exponents are both the same.

To **simplify** an expression, combine like terms by adding or subtracting the coefficients of the variable.

$$5m - 2m = 3m$$

$$4a^2 + 5a + a + 3 = 4a^2 + 6a + 3 \quad \text{Note that the coefficient of } a \text{ is } 1.$$

Simplify.

5. $8x + 2x$

6. $3m - m$

7. $6y + 6y$

8. $14t - 3t$

9. $3b + b + 6$

10. $9a - 3a + 4$

11. $n + 5n - 3c$

12. $12d - 2d + e$
