2.3 Simplifying Variable Expressions

Goal: Simplify variable expressions.

Vocabulary
Terms of an expression:
Coefficient of a term:
Constant term:
Like terms:

Example 1 Identifying Parts of an Expression

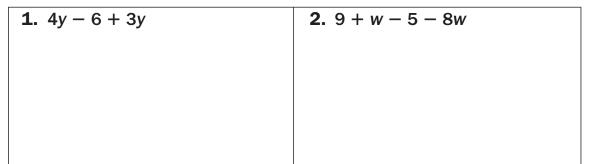
Identify the terms, like terms, coefficients, and constant terms of the expression 5 - 2x - 3 + x.

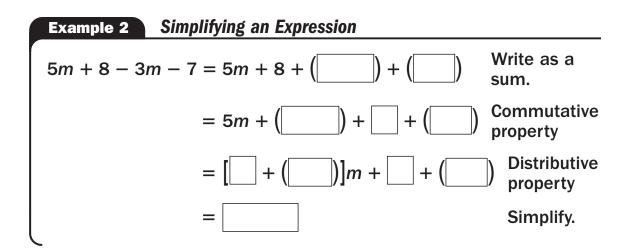
Solution

- **1.** Write the expression as a sum:
- **2.** Identify the parts of the expression. Note that because $x = \begin{bmatrix} x \\ x \end{bmatrix}$, the coefficient of x is $\begin{bmatrix} x \\ y \end{bmatrix}$.

Terms:	Like terms:
Coefficients:	Constant terms:

Checkpoint Identify the terms, like terms, coefficients, and constant terms of the expression.





Example 3 Simplifying Expressions with Parentheses		
a. $3(x+2) - x + 9 = $ b $-x + 9$	Distributive property	
=	Group like terms.	
=	Combine like terms.	
b. $2k - 5(k + 4) = 2k - $	Distributive property	
=	Combine like terms.	
c. $5a - (5a - 7) = 5a - (5a - 7)$	Identity property	
= 5a –	Distributive property	
=	Combine like terms.	
=	Simplify.	

Checkpoint Simplify the expression.

3. 4 <i>y</i> - 6 + 3 <i>y</i>	4. $9 + w - 5 - 8w$
5. $4(x-1) - 2x - 7$	6. $-6(k+3)+5k$