2-5a Properties of Numbers

What can you do with these properties?

Commutative Property	Associative Property
Commutative Property of Addition	Associative Property of Addition
Commutative Property of Multiplication	Associative Property of Multiplication

Can we identify some of these properties?

Property Bank

Additive Identity	Multiplicative Inverse	Commutative Property	Distributive Property
Associative Property	Additive Inverse	Multiplicative Identity	

$3 + 7 = 7 + 3$	$6 \cdot 1 = 6$	$5(4 + 2) = 5 \cdot 4 + 5 \cdot 2$
$5 \cdot \frac{1}{5} = 1$	$-5 + 0 = -5$	$(6 + 4) + 5 = 6 + (4 + 5)$
$5(2x - 3y) = 10x - 15y$	$3 \cdot (-2) \cdot 7 = (-2) \cdot 7 \cdot 3$	$0 + a = a$
$-2(3 \cdot 6) = (-2 \cdot 3) \cdot 6$	$-\frac{6}{7} \cdot \left(-\frac{7}{6}\right) = 1$	$1 \cdot \frac{21}{23} = \frac{21}{23}$

2-5b Combining Like Terms

Let's take a look at some vocabulary before we begin.

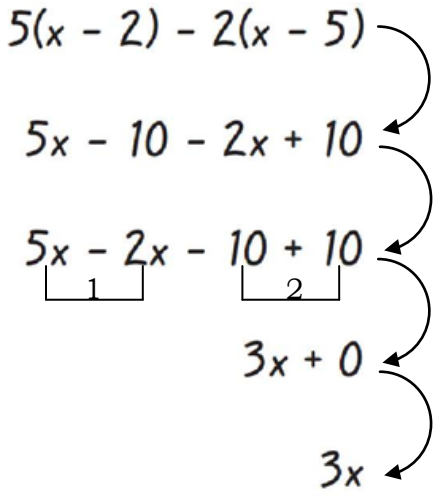
$$2x + 3$$

Like Terms	Unlike Terms

Simplify each Expression by Combining the Like Terms

1. $3x + 6x$
2. $-6y - 8y$
3. $3y - 8 + 6y$
4. $4x + 8y$
5. $4a + 6b - 3c + 7b - 2a - c$
6. $5x^2 - 3 - 6x - 3x^2 - 4x + 9$
7. $3(3x - 4) + 5$
8. $-2(x^2 + 6x) + 3(x - 4x^2)$
9. $3(2x - 5y) - (4x + 7y)$

10. Identify the Property Used to simplify the following Expression.



1. _____

2. _____

Practice 2-5 Name _____

1. Give an example using the numbers 5 and 4 to show the Commutative Property.

2. Give an example using the numbers 10, 11, and 12 to show the Associative Property.

3. Find the missing term. $8.4(1.5 + 2.3x) = 12.6 + \_\_\_\_\_$

Simplify each expression by combining like terms.

4. $-5x + 9x$	5. $3(5x - 3) + 2x$	6. $-3a + 6b + 2a - 8b + 5b$
7. $2x^3 + 6x^2 - 4x$	8. $-4(2x - 5y) + 4x - 7y$	9. $2(2x - 5) - (-3x - 5)$

10. Jessica attempted to simplify the following expression. Is she correct? If not, identify where Jessica made her mistake and simplify the expression correctly.

$$3(2x-4)+5(2x-6)=$$
$$6x-12+10x-30=$$
$$6x+10x-12-30=$$
$$16x^2-42$$