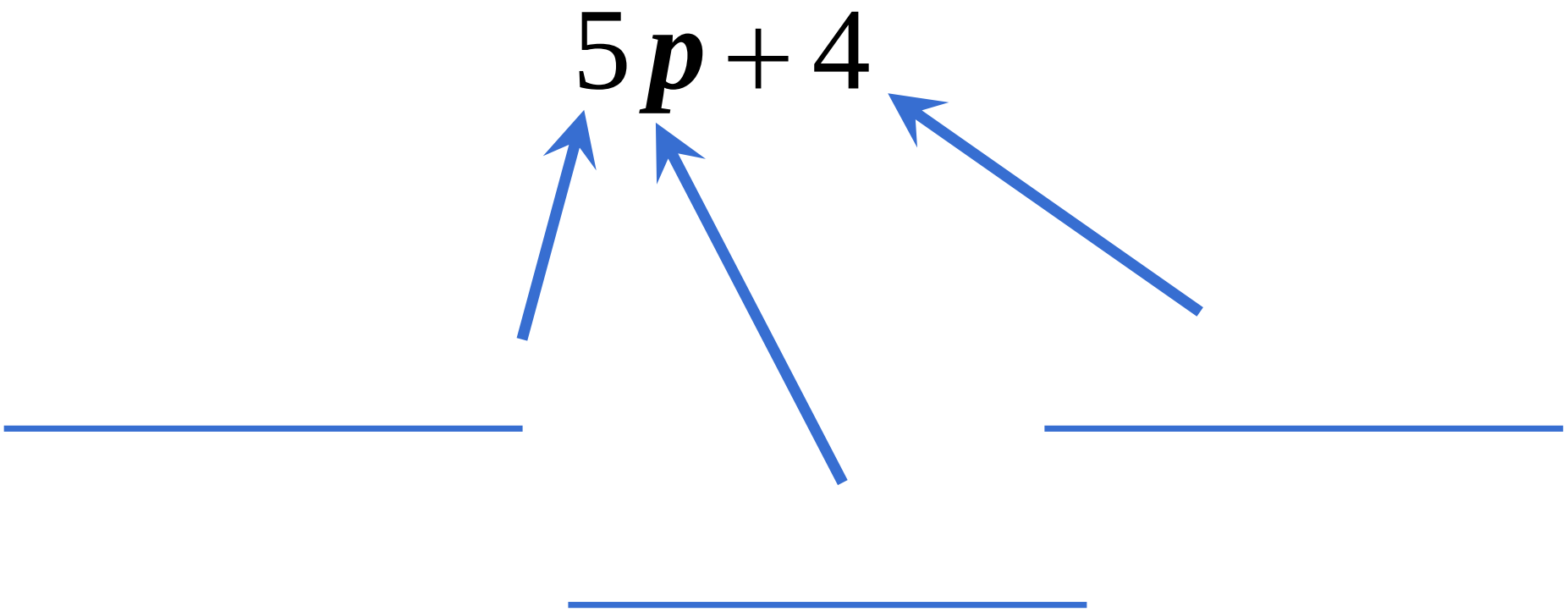
13.1

Algebraic Expressions

Parts of Algebraic Expressions

An _____ _____ is a mathematical phrase that may contain numbers, operations, and one or more symbols.



The _____ of an algebraic expression are the parts that are separated by addition.

Like Terms

These are terms with the exact same variable and power

$8x$ $12x$ $-3x$

$5x$

Unlike Terms

These are terms with the different variables and powers

$$8 \qquad 12x \qquad -3a$$

$$5x^2$$

Review: Parts of Alg. Expressions

Identify the terms, coefficients, and constants in the expression.

1) $5x^2 + 63 + 6y^2$

Terms: _____

Coefficients:_____

Constants:_____

2) $8a^2 + 9b + \frac{3}{5}c^2$

Terms: _____

Coefficients:_____

Constants:_____

Review: Parts of Alg. Expressions

Identify the terms, coefficients, and constants in the expression.

3) $9x - 2 + 7 - x$

Terms: _____

Coefficients:_____

Constants:_____

Like Terms: _____

4) $z^2 + 5z - 3z^2 + z$

Terms: _____

Coefficients:_____

Constants:_____

Like Terms: _____

Simplifying Algebraic Expressions

1) Use **the Distributive Property to simplify the expression.**

$$4(n+5)$$

Simplifying Algebraic Expressions

2) Use **the Distributive Property to simplify the expression.**

$$12(2y-3)$$

Simplifying Algebraic Expressions

2) Use **the Distributive Property to simplify the expression.**

$$9(6 + x + 2)$$

Simplifying

$$5n + 3n$$

Simplifying

$$7p + 2p$$

You try some.

$$4x + 12x =$$

$$5b + 14b =$$

$$15c - 9c =$$

$$10f - 2f =$$

Now, what if you were asked to simplify an expression like this:

$$2a + 3a + 4a$$

How in the world would you simplify an expression like this?

$$2a + 3a + 4d$$

Practice

Simplify the following.

$a + 2b - 8a =$

$2x - 6y + 7x + 2y =$

$6s^2 - 3s^2 + 4t - 6s^2 =$

$2b + 4 + 3b + 9 =$

$10 - 14xy + 12xy + 21 =$

$3x - 7y + 5x - y =$

$6c - 5 - 2c - 7 - 8d =$

Simplify the expressions

1) $7k + 10 - 4k - 7$

2) $10x + 4.5 - x - 4$

3) $5.7p + 3 - 2.4p - 2p$

Practice

Simplify the following.

$8 + 3(x + 2)$

$8 + 3x + 6$

$3x + 14$

$x + 4(x - 6)$

$-2(x + 7) + 12x$

$x + 3(x - 4) + 2x$

Simplify the expressions

1) $-\frac{1}{2}(6n+4)+2n$

2) $7-4\left(\frac{3}{4}x-\frac{1}{4}\right)$