

# Question Exploration Guide

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

① What is the Critical Question?

How do we simplify the expression,  $3(x-5)+7x+9$ ?

② What are the Key Terms and explanations?

Simplify  
Like term  
Expression  
Constant  
Coefficient  
Term  
Variable  
Distributive property

**Simplify:** to put in the smallest form.

**Expression:** A statement with numbers, operations, variable, and no equal sign.

**Term:** is separated by addition or subtraction.

**Like term:** have the same variable and exponent or is a constant.

**Constant:** is a number without a variable.

**Variable:** is a symbol ( letter) that represents an unknown quantity

**Coefficient:** is a value being multiplied by a variable

**Distributive property :** to multiply the terms inside parentheses.

③ What are the Supporting Questions and answers?

What is the question asking?

What steps do I follow?

How do I know when I am done?

to make the expression shorter

1. apply distributive property:  $3(x-5)+7x+9$ ;  $3x-15+7x+9$

2. regroup like terms:  $3x+7x -15 +9$

3. combine like terms:  $10x-6$

There is only 1 term with the variable x and 1 term that is the constant.

④ What is the Main Idea answer?

We want to use the distributive property first to get  $3x-15+7x+9$ . Then regroup like terms  $3x+7x-15+9$ . Finally simplify by combining like terms,  $10x-6$ .

⑤ How can we use the Main Idea?

Simplify.  $18+9x-6(2x-4)$

⑥ Is there an Overall Idea? Is there a real-world use?

At the Beltway Outlet store, you buy x computer games for \$13 each and a magazine for \$4. Write an expression in simplest form that represents the total amount of money you spend.