

(CLT)

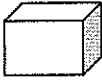
# Class Notes

## Simplifying by Combining Like Terms and Distribution

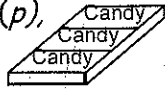
Name \_\_\_\_\_  
Date \_\_\_\_\_ Period 1

Explore CWK

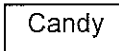
Stores have boxes of candy ( $b$ ),



packages of candy ( $p$ ),



and single candy bars.



$$\text{Food 4 Less} = 10b + 8p + 20$$

$$\text{Smith's Food} = 5b + 6p + 10$$

$$\text{Grant's Grocery} = 3b + 8$$

$$\text{Food Mania} = 12b + 20p + 25$$

1. What is the combined inventory of Food 4 Less and Smith's Food?

$$\begin{aligned} & (10b + 8p + 20) + \\ & (5b + 6p + 10) = \\ & 15b + 14p + 30 \end{aligned}$$

2. What is the difference in inventory of Food Mania and Food 4 Less?

$$\begin{aligned} & (12b + 20p + 25) - (10b + 8p + 20) \\ & 2b + 12p + 5 \end{aligned}$$

3. The district manager requires that Food 4 Less and Food Mania submit a report containing an algebraic expression representing the combined inventories of the two stores.

a. Write the expression that represents the sum of the inventories of the two stores.

$$(10b + 8p + 20) + (12b + 20p + 25)$$

b. Write an equivalent expression representing the total number of boxes, packages, and candy bars for two stores.

$$22b + 28p + 45$$

4. Write two equivalent expressions to represent the difference in the inventories of Food 4 Less and Smith's Food.

$$\begin{aligned} & (10b + 8p + 20) - (5b + 6p + 10) \\ & 5b + 2p + 10 \end{aligned}$$

5. What do you think it would mean to simplify an algebraic expression?

Perform all operations that you can; CLT, distribute, place fractions in lowest terms

Using the Distributive Property

7. A new food company, Diler Foods, has three locations, where each location has 3 boxes, 8 packages, and 12 single candy bars in their inventory.

a. Write an expression for the company's total inventory as a product. Use  $b$  to represent boxes and  $p$  to represent packages.

$$3(3b + 8p + 12)$$

b. Now write an equivalent algebraic expression to represent the company's total inventory after simplifying.

$$9b + 24p + 36$$

Write the equivalent expression  
Simplify each expression.

8.  $3x + 5x$

$$8x$$

11.  $(2x + 3y - 18) - (-8x + 12)$

$$10x + 3y - 30$$

9.  $4xy^2 - 2xy^2 + t^9$

$$2xy^2 + t^9$$

12.  $2(3x - 5)$

$$6x - 10$$

10.  $(2x + 4) + (3x - 7)$

$$5x - 3$$

13.  $2(x - 3) + 6(x + 4)$

$$2x - 6 + 6x + 24$$

$$8x + 18$$