Name _____

Date _____Pd_____

MULTI-STEP EQUATIONS WITH THE DISTRIBUTIVE PROPERTY

Equations may include steps that require simplifying using the distributive property. Follow the steps below to solve the given example of an equation that includes distributing as a step.

STEPS TO SOLVE

1. _____ first

2. _____ like terms (if necessary)

3. _____ the equation

$4(2x + 9) = 68$

Solve each of the following multi-step equations. Be sure to check your solution by substituting it back in for the variable to see if it makes the equation true.

1. $6(x - 5) = 18$	2. $4(5x + 6) = 12$	3. $-3(2x - 4) = 18$
✓ CHECK:	✓ CHECK:	✓ CHECK:

Use your knowledge of solving equations to answer the following question.

4. Eduardo solved the following equation but made an error. Describe his mistake and then correctly solve the equation.

$$-5(4x - 2) = -30$$
$$-20x - 2 = -30$$
$$-20x = -28$$
$$x = 1.4$$

Use your understanding of rational numbers and multi-step equations to solve the equations below.

5. $\frac{1}{2}(x + 4) = -12$	6. $26 = 2(3x - 2)$	7. $\frac{2}{3}(3x - 6) = 8$
8. $-2(1.7x + 1.2) - 3.8 = 4$	9. $5(4 - 2x) = -14$	10. $-2x - 9 + 6x = -4$

11. Three friends met for a book club at a coffee shop. Each friend ordered a cup of coffee and two donuts. The total of the order was $21.75.

a. If a cup of coffee costs $3.25, then use the diagram to write an equation to solve for c, the cost of the donut.

$3(\text{☕} + \text{🍩}) = 21.75$

3 (_____ + _____) = _____

b. What is the cost of a donut? _____

12. Two brothers each purchase a new pair of hiking boots and two canteens. The hiking boots cost $34.00 each and the total of their purchase was $98.00. What was the cost of each canteen?

a. Define a variable: _____

b. Write an equation: _____

c. Solve: _____

Summarize today's lesson: