

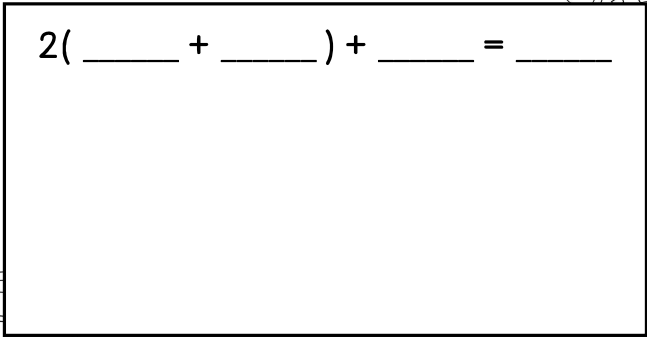
MULTI-STEP EQUATIONS WITH DISTRIBUTIVE PROPERTY

Two friends met up for coffee and dessert. Each friend got a medium drink and two cupcakes, and one friend bought a mug for \$12.00. The friend who bought the mug paid for their order, and the total was \$29.00.

a. If a medium cup of coffee costs \$3.50, use the lines at the right to write an equation to solve for c , the cost of a cupcake.

b. Distribute and combine like terms on the left.

c. Solve for c .


$$2(\underline{\quad} + \underline{\quad}) + \underline{\quad} = \underline{\quad}$$

Similar to the example above, when equations involve multiple steps and the distributive property, follow the steps to solve below. Apply the steps to work through #1.

STEPS TO SOLVE

- _____ first
- _____ like terms (if necessary)
- _____ the equation

1.

$$-4(-6x + 1) - 8 = 12$$

Solve each equation. Be sure to show all work.

2. Solve the equation.

$$4 + 2(x - 8) = 44$$

3. Solve the equation.

$$-3(2p - 3) + 10p = 39$$

<p>4.</p> $8 + \frac{2}{3}(6x + 30) = 80$ <p style="text-align: right;">_____</p>	<p>5.</p> $4x - 4(7 - 5x) = -20$ <p style="text-align: right;">_____</p>	<p>6.</p> $-2.5(3x - 4) + 5x = 32.5$ <p style="text-align: right;">_____</p>
-----------------------------------------------------------------------------------	--------------------------------------------------------------------------	------------------------------------------------------------------------------

Apply your knowledge of solving multi-step equations to answer questions 7-9.

7. Andre incorrectly solved the equation at the right. Identify Andre's mistake. Then, solve the equation to find the correct solution.

$$8x + 2x(5 - 10) = 110$$

$$10x(5 - 10) = 110$$

$$50x - 100x = 110$$

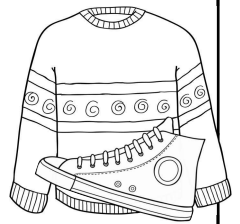
$$-50x = 110$$

$$x = 2.2$$

8. Marty shipped two packages to his sons that each included a pair of shoes and four new sweaters. Each pair of shoes weighed 1.5 lbs and each sweater weighed x pounds. If the total weight of both packages was 7 lbs, mark each statement as true or false. Correct any false statements.

_____ a. The situation can be represented by the equation $2(1.5x + 4) = 7$.

_____ b. The weight of each sweater is 0.5 lbs.



9. Three friends each ordered two slices of pizza and a drink at the mall. If drinks cost \$0.75, and the total of their orders was \$11.25, how much did one slice of pizza cost?



Pizza: _____

Summarize today's lesson:

MULTI-STEP EQUATIONS WITH DISTRIBUTIVE PROPERTY

Solve each equation below. Then, find the sum of the solutions in the three columns. If the problems are answered correctly, the sum of each column will be the same.

COLUMN #1

COLUMN #2

COLUMN #3

A $4(2x - 7) - 2x = -10$

B $3.3(n - 8) - n = 1.2$

C $12 + \frac{1}{5}(10c + 5) = 59$

D $8.6w + 2.2(2w - 5) = 54$

E $\frac{1}{3}(21y + 39) = -36$

F $\frac{5}{4}(20z + 12) = -35$

G $\frac{1}{2}v - 12 + 20 = 14$

H $1.4(x + 5) + 1.6x = 52$

I $-12 = 19k - 4k + 3$

SUM: _____

SUM: _____

SUM: _____