

MULTI-STEP EQUATIONS

April needs to solve the equation shown at the right. Describe the steps you think April should take in the space below. Then, solve the equation in the box.

$$2x + 3x + x - 2 = -14$$

SOLVING MULTI-STEP EQUATIONS

- If possible and/or necessary, _____ like terms on the same side of the equation first.
- Then, _____ the variable to solve the equation.

Practice solving the multi-step equations below. Be sure to show all work.

1. $4x + 14 + 4x = 38$

2. $-12 = 10n - 40n + 3$

3. $\frac{1}{2}b + 8 - 10 = 6$

4. $-14 = 7w + 2w + 8.5$

5. Calvin went shopping over the weekend and bought a t-shirt, a new pair of shoes, a pair of sunglasses, and a hat that cost \$9. The shoes were twice as much as the shirt, and the sunglasses were half the price of the shirt. The total cost of his purchase was \$65.

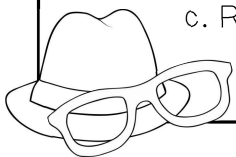


a. Write an equation to represent Calvin's purchase using "s" for the cost of the shirt.

_____ + _____ + _____ + _____ = _____

b. Simplify the equation by combining like terms and solve.

c. Record the cost of each item.

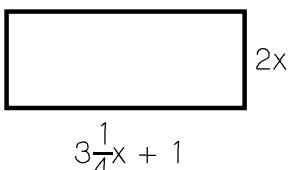
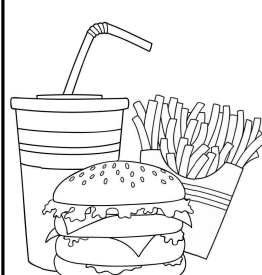


Shirt: _____ Shoes: _____ Sunglasses: _____

In 6-8, solve the multi-step equations.

<p>6.</p> $17n - 23n + 11.5n = 44$ <p>_____</p>	<p>7.</p> $15 - 8p + 6.75p = 10$ <p>_____</p>	<p>8.</p> $18 - 5w + 7w - 4 = 28$ <p>_____</p>
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Apply your knowledge of solving multi-step equations to answer each of the following.

<p>9. The perimeter of the rectangle below is 65 inches.</p> <div style="text-align: center;">  </div> <p>a. What is the value of x? _____</p> <p>b. What are the dimensions of the rectangle?</p>	<p>10. James bought a cheeseburger, fries and a drink for dinner. The cheeseburger was three times the price of the fries, and the drink and the fries were the same price. If the entire meal cost \$12.50, what was the price of each item?</p> <div style="text-align: center;">  </div> <p>Cheeseburger: _____</p> <p>Fries: _____</p> <p>Drink: _____</p>
<p>11. Frankie solved the equation below. Describe Frankie's mistake and record the correct solution.</p> <div style="border: 1px solid black; padding: 10px; margin-left: auto; margin-right: auto;"> $2.3x - 3.9 + 1.2x - 4.6 = 2$ $3.5x - 8.5 = 2$ $3.5x = 10.5$ $x = 7$ </div>	

Summarize today's lesson:

MULTI-STEP EQUATIONS

Each of the cards on the left has the same solution as one of the cards on the right. Find the cards with matching solutions to complete the sentences below.

$$8x - 28 - 2x = -10$$

A

$$3.3x - 26.4 - x = 1.2$$

F

$$12 + 2x + 1 = 59$$

B

$$7x - 10x + 18 + 2x = -5$$

G

$$4 + \frac{1}{4}x + 3 = 10$$

C

$$7x + 15 - 9x = 5$$

H

$$-2 + 25x + 17 = -35$$

D

$$15 = \frac{1}{2} + \frac{3}{2}x + 10$$

I

$$8.6x + 4.4x - 11 = 54$$

E

$$-17x - 8 + x = 24$$

J

1. Card A and Card _____ have the same solution of _____.
2. Card B and Card _____ have the same solution of _____.
3. Card C and Card _____ have the same solution of _____.
4. Card D and Card _____ have the same solution of _____.
5. Card E and Card _____ have the same solution of _____.