

1. Solve the following equations for  $x$  using inverse operations.

(a)  $7x - 15 = 1$

(b)  $\frac{x+2}{4} = -2$

(c)  $-\frac{3}{5}x + 2 = 7$

2. Solve the equation for  $x$ . Check to make sure the **original equation** has a true value for the  $x$  you find.

(a)  $\frac{5(x+1)+4}{6} = 4$

(b)  $\frac{5(x-3)}{8} + 2 = 7$

(c)  $-\frac{3}{2}x + 2 = -4$

(d)  $5(x+1) - 2x = 2(3+x)$

3. A tile warehouse has Inventory at hand and can put in for a back order from a supplier of bundles of tiles. Currently they have 38 tiles of a certain kind in stock, and can only order more in groups of 12 tiles per bundle. The equation that represents this order is as follows;

The number of tiles =  $12b + 38$ , where  $b$  is the number of bundles ordered.

- (a) If a customer needs 150 tiles, how many bundles will need to be ordered? Explain how you got your answer. Why do we need to round our answer up in this problem?
- (b) If the store likes to keep 30 tiles in stock at all times how many bundles do they need to order now, after selling the 150 tiles to the customer? Think about how many you had left over from the customer who ordered 150 tiles.

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R1. Simplify:  $x(x+2) + 3(x+2) + 4x(x+2)$

R2. The equation  $(x-6)(8+x) = (x-6) \cdot 8 + (x-6) \cdot x$  illustrates the use of which property?

- (1) Distributive
- (2) Associative property of addition
- (3) Associative property of multiplication
- (4) Commutative property of multiplication

R3. Jen traveled a distance of 170 miles in 2 hours and 45 minutes. Express her speed, in miles per hour, to the nearest tenth.

R4. A parking garage charges a \$2.50 base fee plus an hourly rate for each hour. The cost,  $C$ , for parking a car for  $h$  hours is modeled by the equation  $C = 3.00h + 2.50$ . Examine the equation and determine the hourly rate for parking a car.

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1. a.  $x = \frac{16}{7}$

b.  $x = -10$

c.  $x = -\frac{25}{3}$

2. a.  $x = 3$

b.  $x = 11$

c.  $x = 4$

d.  $x = 1$

3. a. 10 bundles, we can only order in groups.

b. 2 bundles

R1.  $5x^2 + 13x + 6$

R2. (1)

R3. 61.8 mph

R4. \$3