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- 1) Solve each expression below using the values  $a = -9$ ,  $b = 12$ ,  $c = -4$ .

$$5c + 2a$$

$$3a - 5b$$

$$\frac{b}{c}$$

- 2) Given that the mean of 3 integers  $a$ ,  $b$ , and  $c$  is 40.

The mean of  $a$ ,  
 $b$ ,  $c$ , and 39.

**A**

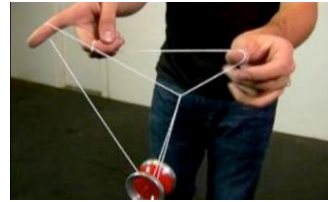
40

**B**

Which statement is true?

- (A) A is greater than B.  
(B) B is greater than A.  
(C) A and B are equal.  
(D) There is not enough information to tell which is greater.

- 3) Ten friends have an average of 3 yo-yos each. Jason joins them and now the average is 4 yo-yos each. How many yo-yos does Jason have?



- 4) Create a data set with two modes and a median that is not equal to any of the numbers in the data set.

5) Solve the equation below. Check your answer by substituting it back into the original equation.

$$n - 3 = -7$$

$$\checkmark n - 3 = -7$$

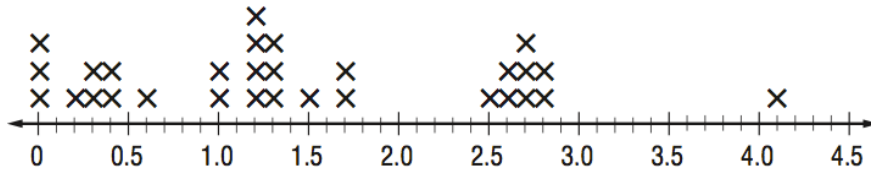
6) Solve the equation below. Check your answer by substituting it back into the original equation.

$$\frac{r}{-7} = -4$$

$$\checkmark \frac{r}{-7} = -4$$

7) Use the line plot to answer the questions below.

**Daily Rainfall (inches)**



What was the range of rainfall?

What was the mode?

What was the median?

On how many days did it rain more than 1.0 inches?

8) Give an example for each of the mathematical properties listed below:

Multiplicative Identity

Multiplicative Inverse

Substitution

Additive Identity

Additive Inverse

Reflexive Property

Property of Equality

9) Find the mean, median, mode, and range of the data below.

3.2, 3.1, 4.5, 4.5, 4.3, 5.6

Mean \_\_\_\_\_

Median \_\_\_\_\_

Mode \_\_\_\_\_

Range \_\_\_\_\_

If a number is added to the data set, and the mean increases, what do you know about that number?

If a number is added to the data set, and the mean decreases, but the range remains the same, what do you know about that number?

10) Given that  $a = -2$ , and  $b = 3$

$$ab + 5$$

A

$$a(b + a)$$

B

Which statement is true?

- (A) A is greater than B.
- (B) B is greater than A.
- (C) A and B are equal.
- (D) There is not enough information to tell which is greater.

11) Solve the equation below. Check your answer by substituting it back into the original equation.

$$\frac{1}{5}d = -9$$

$$\checkmark \frac{1}{5}d = -9$$

12) Katherine has a summer job mowing lawns. The following amounts represent her earnings for mowing 5 lawns: \$22, \$25, \$20, \$18, \$25.

Which measure is NOT represented by \$22, the mean, median, or mode?

If Katherine mowed two more lawns and earned \$14 and \$23, which measure would change, the mean, median, or mode? What would it change to?



13) Name the mathematical property:

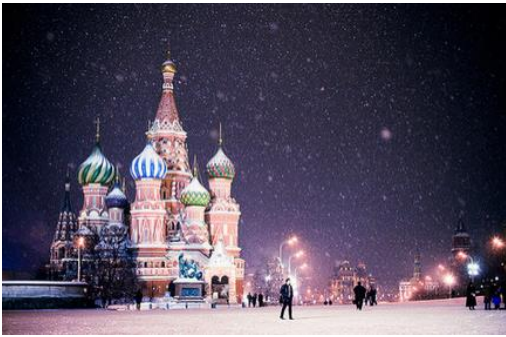
$$\frac{2}{9} \cdot \frac{9}{2} = 1$$

$$-17 + 17 = 0$$

$$k = -2 \quad \text{and} \quad 7k + 10 = -4$$
$$\text{so} \quad 7(-2) + 10 = -4$$

$$23 = 23$$

14) The range of temperatures in Moscow, Russia for 2014 was  $45^\circ\text{C}$ . If the lowest recorded temperature that year was  $-12^\circ\text{C}$ , what was the highest temperature?



15) Solve the equation below. Check your answer by substituting it back into the original equation.

$$\frac{k}{4} + 11 = -29$$

$$\checkmark \frac{k}{4} + 11 = -29$$

16) Solve the equation below. Check your answer by substituting it back into the original equation.

$$1 = -20 + \frac{7}{8}g$$

$$\checkmark 1 = -20 + \frac{7}{8}g$$