DEMOCRACY PREP

FIRST AND LAST NAME

Math

SUBJECT

Due: First Day of School

DATE

BPMS

ADVISORY

Bronx Prep Middle School Rising 8th Grade

Dear Scholar,

You finished 7th grade! Your hard work doesn't stop here! As incoming 8th graders, we know you will practice over the summer to get smarter, faster, and challenge yourself to learn more.

As the 8th grade class, we want you to be prepared for the awesome work at Bronx Prep Middle School (BPMS). The following packet will help you prepare for this awesome work. It must be printed, completed in its entirety, and submitted in person on **the first day of school on August 30th, 2021.**

We are so excited to see you again!!

Cher érudit,

Vous avez terminé la 7e année ! Votre travail acharné ne s'arrête pas là ! En tant que nouveaux élèves de 8e année, nous savons que vous vous entraînerez au cours de l'été pour devenir plus intelligent, plus rapide et vous mettre au défi d'en apprendre davantage.

En tant que classe de 8e année, nous voulons que vous soyez préparé pour le travail formidable du Bronx Prep Middle School (BPMS). Le paquet suivant vous aidera à vous préparer à ce travail impressionnant. Il doit être imprimé, complété dans son intégralité et remis en personne le **premier jour d'école le 30 août 2021.**

Nous avons tellement hâte de vous revoir !!

Estimado erudito,

¡Terminaste el séptimo grado! ¡Tu arduo trabajo no se detiene aquí! Como estudiantes que ingresan al octavo grado, sabemos que practicarán durante el verano para volverse más inteligentes, más rápidos y desafiarse a sí mismos para aprender más.

Como clase de octavo grado, queremos que esté preparado para el increíble trabajo en Bronx Prep Middle School (BPMS). El siguiente paquete le ayudará a prepararse para este maravilloso trabajo. Debe imprimirse, completarse en su totalidad y enviarse en persona **el primer día de clases el 30 de agosto de 2021.**

¡¡Estamos muy emocionados de verte de nuevo !!

Directions: You mush show all of your work, remember to annotate!

Don't forget to <u>underline</u> important information and circle key words!

1) Match each word with its matching definition on the right.

a. **Algebra**	_____ : **A number by itself**
b. **Expression**	_____ : **A number sentence that says that two expressions are equal to each other**
c. **Equation**	_____ : $+, -, \cdot, \div$
d. **Constant**	_____ : **A number sentence of terms separated by operators**
e. **Coefficient**	_____ : **A number in front of variables**
f. **Operator**	_____ : **Math that uses symbols and letters**
g. **Variable**	_____ : **A symbol used to represent an unknown amount**

2) What is the $\left(3z - 4\frac{1}{2}\right)$ subtracted from $(-5\frac{1}{2}x - 2)$?

Answer: _____

3) A framed picture 20 inches wide and 36 inches high is shown in the diagram below. The picture will be hung on a wall where the distance from the floor to ceiling is 10 feet. The center of the picture frame must be $2\frac{3}{4}$ feet from the floor.

a) Determine the distance from the ceiling to the top of the picture frame.

2 ¾ ft = _____ inches

10ft = _____ inches
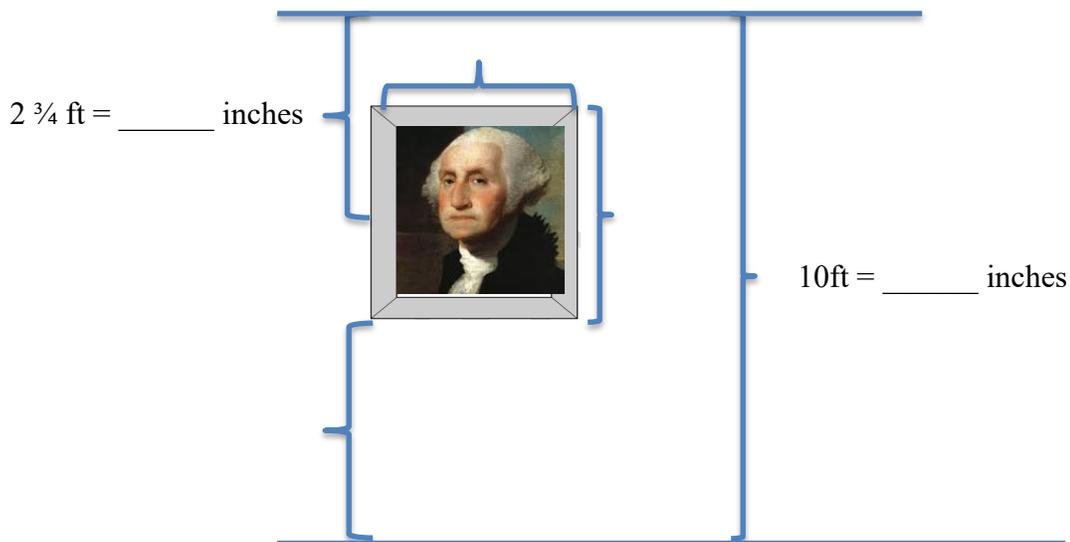
Answer: _____

b) Explain in complete sentences whether you used arithmetic, algebra, or both to solve this problem. Identify the arithmetic or algebra that you used.

_____

_____

_____

c) Write one linear equation that can be used in solving the problem above. (There may be more than one correct answer.)

Answer: _____

4) Boston TAXI charges $1.60 just for entering the cab. Then it costs $0.40 for each additional mile.

a) Write an expression to represent the cost of traveling, m, miles in a NYC taxi.

Answer: _____

b) Ms. Moody rode a Boston taxi 8 miles. How much did it cost her in total?

Answer: _____

c) Mr. Stevens has $20 to spend on his taxi. Write an inequality that represents how far he can travel in his taxi.

Answer: _____

d) Graph the solution of the inequality on the number line below.

5. There are 2 green blocks, 3 blue blocks, and 5 yellow blocks in a bag. What is the likelihood that if one block is randomly chosen it will be either green or blue?

    A. Unlikely

    B. Likely

    C. Certain

    D. Equally Likely or Unlikely

6. The double dot plot below shows the quiz scores out of 20 points for two different class periods.
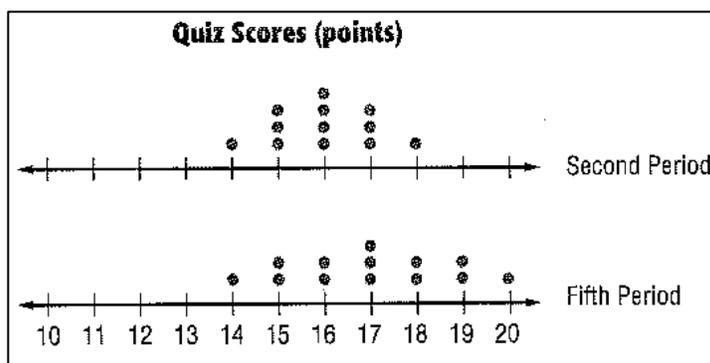
Which of the following statements are true about the data?

    I.   Second period and Fifth period have a small degree of overlap.
    II.   Second period's median is less than Fifth period's median.
    III. Second period and Fifth period show symmetric data.

    A. I Only

    B. I and III

    C. II and III

7. Which of the following choices is the best example of a uniform probability model?

    A. Randomly picking the name of a student in a class of 30 students.

    B. Randomly picking a marble from a bag with 8 blue marbles and 6 red marbles.

    C. Spinning a spinner that is ½ green, ¼ blue, and ¼ red.

    D. Picking a winner for a raffle where each participant has bought a different number of tickets.

8. What is the unit rate?

20 centimeters
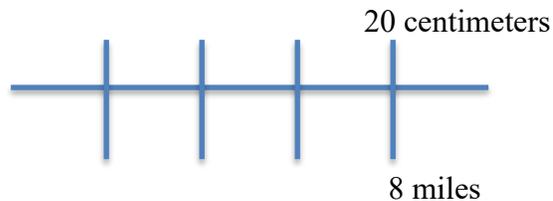
8 miles
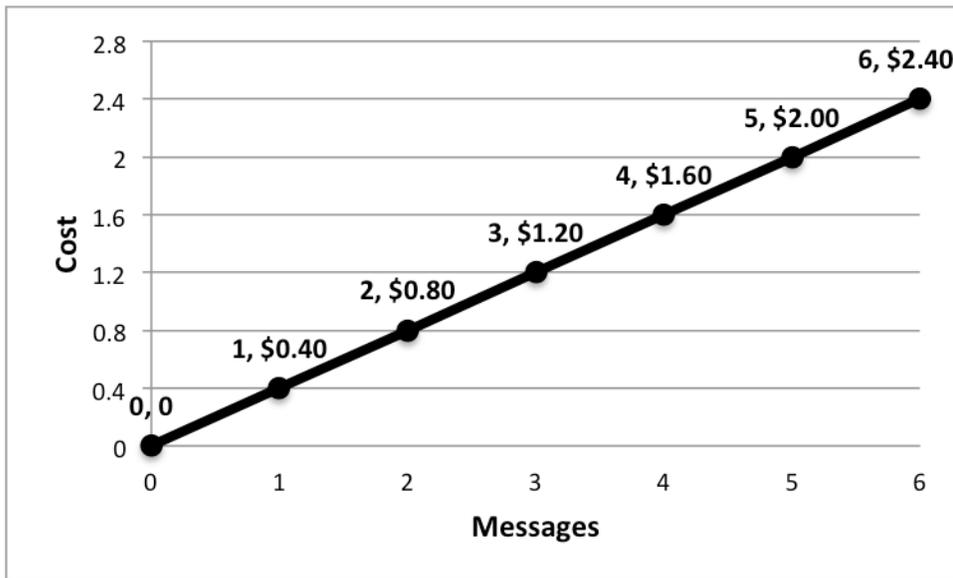
   A. $\frac{2}{5}$ cm per mile

   B. 20 cm per mile

   C. 2 cm for every 5 miles

   D. $\frac{5}{2}$ cm per mile

9. There are 30 names in a hat. If two names are picked without replacement, which expression shows the probability that Jack and Jill will be picked?

   A. $\frac{2}{30}$

   B. $\frac{1}{30} \cdot \frac{2}{30}$

   C. $\frac{1}{30} \cdot \frac{1}{29}$

   D. $\frac{1}{30} \cdot \frac{1}{30}$

10. The graph below shows the cost of sending text messages. What point can be used to identify the unit rate?

A.   (0,0)

B.   (5, $2.00)

C.   ($0.40, 1)

D.   (1, $0.40)

11. A new car costs $8000 at full price. With a sales tax of 5.75%, how much will the car cost in total?

Answer _____

12. A restaurant bill is $35.50. How much EXTRA money should you leave if you want to add a 20% tip?

Answer _____

13. A train travels 120 miles in 1.5 hours. At this rate, how many miles can it travel in 6 hours?

Answer _____

14. At Chase Bank, you earned $50 in interest last year. If the interest rate is 4.5% and your money was in the account for one year, what was your principal deposit, rounded to the nearest dollar?

Answer _____

15. Diaba buys a cell phone that is 60% off. If the original price was $120, what is the sale price?

Answer _____

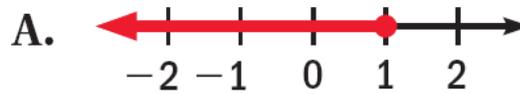16. The tax rate for New York City is 7.45%. If Nicolas earns $36,000 this year, how much will he pay in taxes?

Answer _____

17. A restaurant bill comes to $30.35. Find the total cost if the tax is 6% and a 20% tip is left on the same amount before tax.
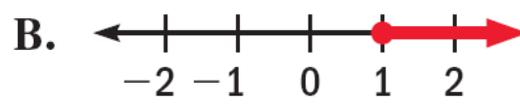
Answer _____
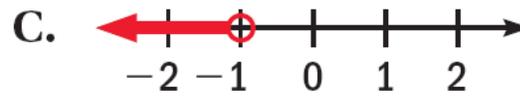
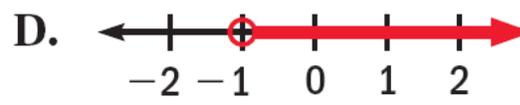Directions: Match each inequality with its graph.

18. $x > -1$ _____

19. $x \leq 1$ _____

20. $x \geq 1$ _____

21. $x < -1$ _____

A.
$$-2 \quad -1 \quad 0 \quad 1 \quad 2$$

B.
$$-2 \quad -1 \quad 0 \quad 1 \quad 2$$

C.
$$-2 \quad -1 \quad 0 \quad 1 \quad 2$$

D.
$$-2 \quad -1 \quad 0 \quad 1 \quad 2$$

22. Write the inequality represented by the graph.

$$-8 \quad -4 \quad 0 \quad 4 \quad 8 \quad 12 \quad 16 \quad 20 \quad 24 \quad 28$$ _____
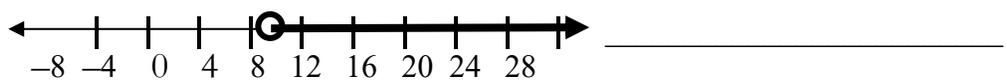
23. Use the inequality to answer the following questions: $3 \leq m \leq 6$

a.) How would you read this compound inequality?

_____

b.) List four possible values for m. _____

c.) Graph the inequality on the number line below.

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