

Name: _____ Class: _____ Date: _____

**Incoming 7th Grade Summer Work
MS 181 Pablo Casals**

Dear Future 7th Graders,

The math work that you will find in this packet must be completed over the summer to help you succeed as a 7th grade math student.

Please do not leave all of the work to be completed until the very end of the summer. Complete some problems each week and avoid hours worth of math work at the end of the summer.

Please make sure to show all of your work for solving problems. Work will be graded.

Please provide the following information:

6th Grade Class: _____

6th Grade Math Teacher: _____

We hope you have a wonderful summer! We are so excited to have you in the 7th grade!

Sincerely,

Mr. Warnock

Principal

Ms. Madden, Ms. Neill & All of the 7th Grade Math Teachers

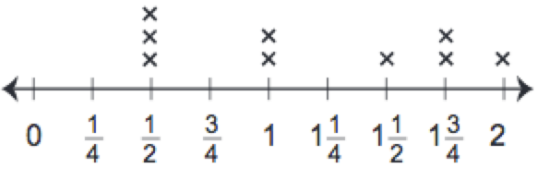
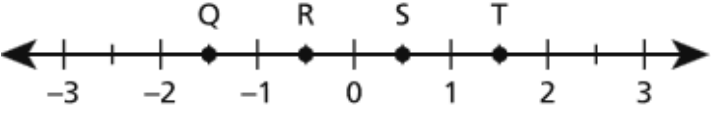
Assistant Principal Math Coach

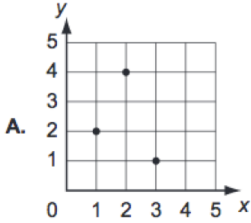
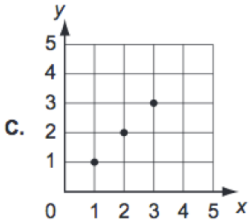
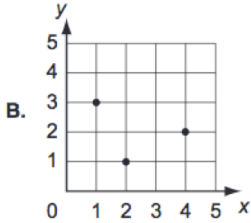
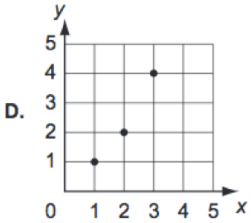
**Incoming 7th Grade Summer Work
MS 181 Pablo Casals**

Directions:

- Read each problem carefully
- Show all work in the space provided
 - Showing work is part of your grade, please make sure that it is there! If you are using a calculator, write down the equation that you punched into your calculator in the "Show your work" box.
- Identify your final answer by circling the correct choice and writing it on the line next to it

Question	Show your work										
<p>_____ 1. Which value of m makes the inequality true?</p> <p style="text-align: center;">$3m - 4 < 11$</p> <p>A. 4 B. 5</p> <p>C. 6 D. 7</p> <p>6.EE.5</p>											
<p>_____ 2. A farmer places beehives containing bees in her orchard to pollinate the plants. The table below shows the ratio of the number of beehives to the number of acres in the orchard.</p> <p style="text-align: center;">BEEHIVES PER ACRE</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;">Number of Beehives</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">9</td> <td style="padding: 5px;">12</td> <td style="padding: 5px;">18</td> </tr> <tr> <td style="padding: 5px;">Number of Acres</td> <td style="padding: 5px;">8</td> <td style="padding: 5px;">24</td> <td style="padding: 5px;">32</td> <td style="padding: 5px;">?</td> </tr> </table> <p>If the bees pollinate the plants at a constant rate, how many acres will be pollinated by the bees in 18 beehives?</p> <p>A. 38 B. 40</p> <p>C. 44 D. 48</p> <p>6.RP.3a</p>	Number of Beehives	3	9	12	18	Number of Acres	8	24	32	?	
Number of Beehives	3	9	12	18							
Number of Acres	8	24	32	?							
<p>_____ 3. Which expression is equivalent to: $9(9m + 3t)$?</p> <p>A. $18m + 3t$ B. $81m + 3t$</p> <p>C. $18m + 12t$ D. $81m + 27t$</p> <p>6.EE.3</p>											

Question	Show your work
<p>_____ 4. Based on a weather report, the probability that it will rain tomorrow is 0.13. Which word describes the likelihood that it will rain tomorrow?</p> <p>A. certain B. impossible</p> <p>C. likely D. unlikely</p> <p>7.SP.5</p>	
<p>_____ 5. David and his friends kept track of how much their height increased, in inches, over the past year. The line plot below shows this information</p> <div style="text-align: center;">  <p>Height Increase (inches)</p> </div> <p>Based on the line plot, the most students grew how many inches this year?</p> <p>A. 0 inches B. 1 inch</p> <p>C. $\frac{1}{2}$ inch D. 2 inches</p> <p>5.MD.1</p>	
<p>_____ 6. A number line with points Q, R, S, and T is shown below.</p> <div style="text-align: center;">  </div> <p>What point represents $-\frac{1}{2}$?</p> <p>A. Point Q B. Point R</p> <p>C. Point S D. Point T</p> <p>6.NS.6c</p>	

Question	Show your work
<p>_____ 7. Which coordinate grid shows the points (1, 2), (2, 4), and (3, 1) graphed correctly?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>A.</p> </div> <div style="text-align: center;">  <p>C.</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>B.</p> </div> <div style="text-align: center;">  <p>D.</p> </div> </div>	
<p>_____ 8. If 3 cars hold 15 people, how many cars are needed for 165 people?</p> <p>A. 11 cars B. 33 cars</p> <p>C. 55 cars D. 180 cars</p> <p>6.RP.2</p>	
<p>_____ 9. The outside temperature in a town is -20 degrees Fahrenheit. What change in temperature, in degrees Fahrenheit, would bring the outside temperature to 0 degrees Fahrenheit?</p> <p>A. -21 B. -20</p> <p>C. 0 D. 20</p> <p>6.NS.5</p>	
<p>_____ 10. Laticia randomly selected 25% of the seventh-grade students in her school and asked them their favorite season. Of the students surveyed, 51 chose summer as their favorite season. Based on the data, what is the most reasonable prediction of the number of seventh-grade students in her school who would choose summer as their favorite season?</p> <p>A. 15 B. 75</p> <p>C. 150 D. 200</p> <p>7.SP.2</p>	

Question**Show your work**

_____ 11. Kamilah took \$7.75 to her school book fair. She bought 3 posters and 1 book. The prices, including tax, for items sold at the book fair are shown.

Book Fair

Item	Price
stickers	\$0.25
pencil	\$0.35
poster	\$1.05
gel pen	\$1.60
book	\$3.00

What is the greatest number of pencils Kamiah can buy with the money she has left?

- A. 5 pencils B. 4 pencils
C. 2 pencils D. 1 pencil

6.EE.8

_____ 12. Josh has c coins. Nick has 4 fewer coins than 3 times as many coins as Josh. Which expression can be used to show how many coins Nick has?

- A. $3c - 4$ B. $3 - 4c$
C. $4c - 3$ D. $4 - 3c$

6.EE.6

_____ 13. Mario sells men's and women's shoes in his shoe store. He is considering selling children's shoes. He randomly selected 120 customers to participate in a survey. The survey results are shown below.

- 42 customers said they would shop for children's shoes
- 78 customers said they would not shop for children's shoes

Mario has an average of 440 customers per month. Based on the survey results, which value is the best estimate of the number of customers that would shop for children's shoes during an average month?

- A. 120 B. 154
C. 220 D. 286

7.SP.2

Question	Show your work
<p>_____ 14. Which expression is equivalent to $\frac{3}{5}$?</p> <p>A. $3(5)$ B. $3 + 5$</p> <p>C. $3 \div 5$ D. $3 - 5$</p> <p>5.NF.3</p>	
<p>_____ 15. A middle school principal wants to change the lunch menu at the school. The principal surveys the students to determine how the students would feel about the changes. Which</p> <p>A. survey method will produce the best representative sample? survey every fifth student who rides in a car to school</p> <p>B. survey 3 randomly selected students from every homeroom</p> <p>C. survey every tenth seventh-grade student during lunch</p> <p>D. survey 5 randomly selected students from every art, drama, and music class</p> <p>7.SP.1</p>	
<p>_____ 16. Ms. Wilson is buying packages of pencils. Each package costs \$11.52 and contains 96 pencils. What is the unit price of a pencil?</p> <p>A. \$0.12 B. \$0.96</p> <p>C. \$1.20 D. \$1.92</p> <p>6.RP.3b</p>	
<p>_____ 17. What is the value of the expression below when $z = 7$?</p> <p style="text-align: center;">$3z - 3$</p> <p>A. 12 B. 18</p> <p>C. 21 D. 34</p> <p>6.EE.2c</p>	

Question**Show your work**

_____ 18. The table below shows how much money a grocery store receives for selling different amounts of asparagus.

ASPARAGUS SALES

Number of Pounds	Total Sales
4	\$10
6	\$15
8	\$20
10	?
12	?

If the unit rate is constant, what are the total sales for 12 pounds of asparagus?

- A. \$22.50 B. \$25.00
C. \$30.00 D. \$32.50

6.RP.3a

_____ 19. A bagel shop sold 8 plain bagels and 13 rye bagels. What is the ratio of the number of rye bagels to the number of plain bagels sold?

- A. 8 : 13 B. 13 : 8
C. 8 : 21 D. 21 : 8

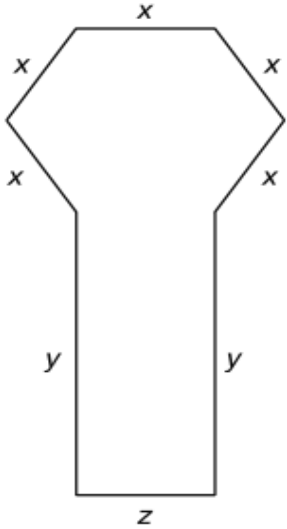
6.RP.1

_____ 20. What value of m makes the equation below true?

$$m + 7.9 = 39\frac{1}{2}$$

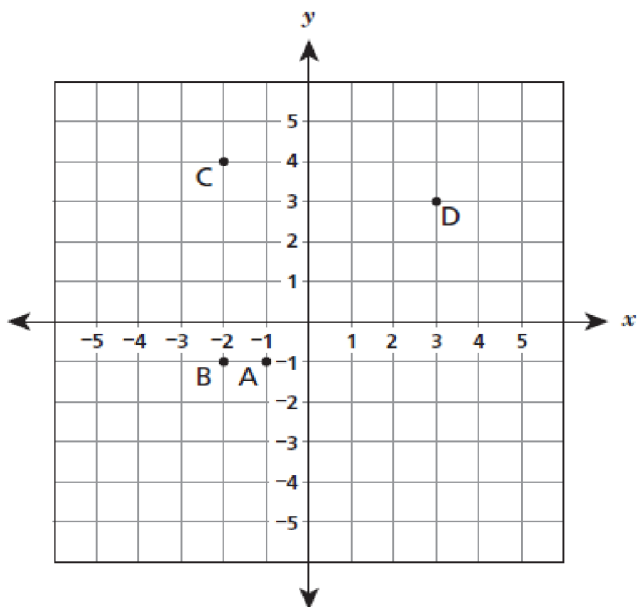
- A. 5.0 B. 31.6
C. 32.4 D. 47.4

6.EE.7

Question	Show your work
<p>_____ 21. At a concert, 20% of the audience members were teenagers. If the number of teenagers at the concert was 360, what was the total number of audience members?</p> <p>A. 432 B. 450</p> <p>C. 1,800 D. 7,200</p> <p>6.RP.3c</p>	
<p>_____ 22. Which expression represents the perimeter of the figure below?</p>  <p>A. $5x + 2y$ B. $x + y + z$</p> <p>C. $5x + 2y + z$ D. $(5 + 2 + 1)(x + y + z)$</p> <p>6.EE.6</p>	
<p>_____ 23. Jake takes guitar lessons that cost \$120.00 per month. Which equation can be used to determine the total number of dollars, d, that Jake pays for lessons for any number of months, m?</p> <p>A. $d = 120m$ B. $m = 120d$</p> <p>C. $d = 120 + m$ D. $m = 120 + d$</p> <p>6.EE.9</p>	

Question**Show your work**

_____ 24. Point G is the point (3, -1)



Which point is 5 units from point G?

- A. Point A B. Point B
C. Point C D. Point D

6.NS.8

_____ 25. Sam paid \$8.28 for 18 stamps. At this rate, how much would it cost Sam to buy 12 stamps?

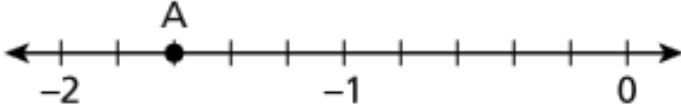
- A. \$2.19 B. \$2.28
C. \$3.72 D. \$5.52

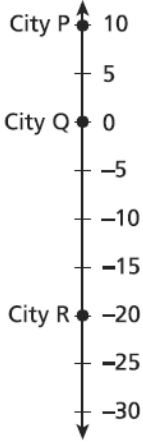
6.RP.3b

_____ 26. Evaluate: $5^2 - 2(5) + 16$

- A. 16 B. -6
C. 31 D. 6

6.EE.1

Question	Show your work
<p>_____ 27. Jasmine goes to the store to buy some fruit to make a fruit salad. The list below shows the amount and the price of each type of fruit she buys.</p> <ul style="list-style-type: none"> ● 3 pounds of apples for \$4.05 ● 2 pounds of grapes for \$4.80 ● 5 pounds of oranges for \$7.50 ● 3 pounds of peaches for \$4.65 <p>Which type of fruit costs \$1.55 per pound?</p> <p>A. Apples B. Grapes</p> <p>C. Oranges D. Peaches</p> <p><i>6.RP.2</i></p>	
<p>_____ 28. Point A is shown on the number line below.</p>  <p>What is the location of point A?</p> <p>A. -1.3 B. -1.35</p> <p>C. -1.6 D. -1.75</p> <p><i>6.NS.6c</i></p>	
<p>_____ 29. Last year the girls' basketball team had 8 fifth-grade students and 7 sixth-grade students. What was the ratio of sixth-grade students to fifth-grade students on the team?</p> <p>A. 8 : 15 B. 8 : 7</p> <p>C. 7 : 8 D. 15 : 8</p> <p><i>6.RP.1</i></p>	

Question	Show your work
<p>_____ 33. What is the value of the expression?</p> $\frac{3^2 \cdot (2^3 + 4)}{2^2}$ <p>A. 10 B. 15 C. 19 D. 27</p> <p>6.EE.1</p>	
<p>_____ 34. The water level in an ocean bay changes at an average rate of 3 meters per hour. At this rate, how many hours would it take for the water level to change 12 meters?</p> <p>A. $\frac{1}{4}$ B. $\frac{1}{3}$ C. 4 D. 36</p> <p>6.RP.2</p>	
<p>_____ 35. The elevations, in feet, of three cities are marked on the number line shown below.</p>  <p>The point 0 on the number line represents sea level. Which statement must be true?</p> <p>A. City P and City Q are above sea level B. City P and City Q are below sea level C. City P is above sea level and City Q is below sea level D. City P is above sea level and City R is below sea level</p> <p>6.NS.5</p>	

Question	Show your work
<p>_____36. An ice cream shop sold 48 vanilla milkshakes in a day, which was 40% of the total number of milkshakes sold that day. What was the total number of milkshakes that the ice cream shop sold that day?</p> <p>A. 60 B. 72</p> <p>C. 100 D. 120</p> <p><i>6.RP.3c</i></p>	
<p>_____37. Which value of x makes the equation true?</p> <p style="text-align: center;">$4x - 8 = 4$</p> <p>A. 60 B. 72</p> <p>C. 100 D. 120</p> <p><i>6.EE.5</i></p>	
<p>_____38. A group of 10 Science Club students is on a field trip. That number of students represents 20% of the total number of students in the Science Club. What is the total number of students in the Science Club?</p> <p>A. 20 B. 30</p> <p>C. 50 D. 80</p> <p><i>6.RP.3c</i></p>	
<p>_____39. There are 230 calories in 4 ounces of a type of ice cream. How many calories are in 6 ounces of that ice cream?</p> <p>A. 232 B. 236</p> <p>C. 345 D. 460</p> <p><i>6.RP.3b</i></p>	

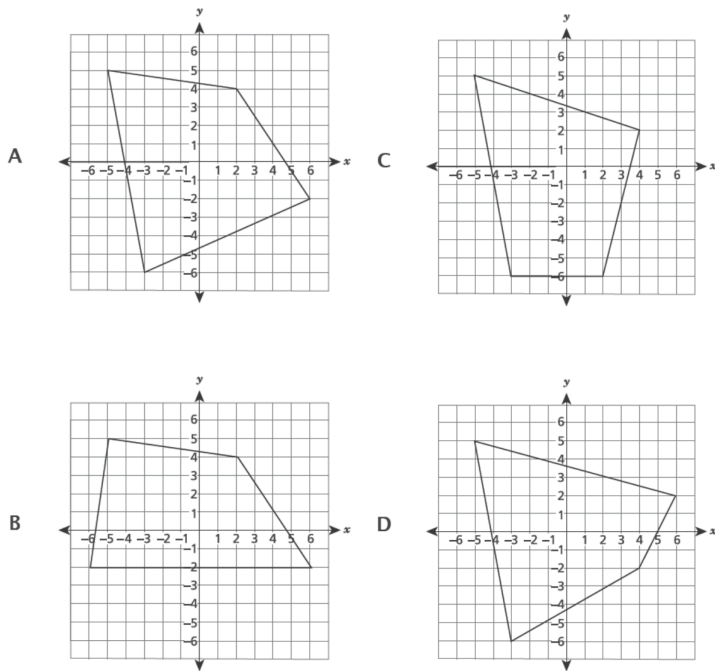
Question**Show your work**

_____ 40. A rectangle is graphed on a coordinate plane. The coordinates for two of the vertices of the rectangle are $(-5, 8)$ and $(-5, -6)$. What is the distance between the two vertices?

- A. 2 B. 4
C. 10 D. 14

6.G.3

_____ 41. Which coordinate plane shows a polygon with four vertices graphed at $(-5, 5)$, $(2, 4)$, $(6, -2)$ and $(-3, -6)$?

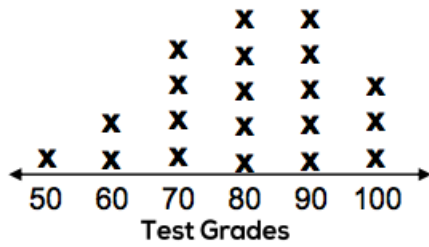


6.G.3

Question	Show your work
<p>_____ 42. A middle school principal wants to change the lunch menu at the school. The principal surveys the students to determine how the students would feel about the changes. Which survey method will produce the best representative sample?</p> <p>A. Survey every fifth student who rides in a car to school</p> <p>B. Survey 3 randomly selected students from every homeroom</p> <p>C. Survey every tenth 7th grade student during lunch</p> <p>D. Survey 5 randomly selected students from every art, drama and music class</p> <p>7.SP.1</p>	
<p>_____ 43. Kira studied data collected on the school basketball team for one season. She noticed that a player on the team had 13 successful free throws out of a total of 20 attempted free throws. To find the percentage of the total free throws attempted by this player that were successful, Kira set up the equivalent ratios below.</p> $\frac{13}{20} = \frac{m}{n}$ <p>What are the values for m and n in Kira's equation?</p> <p>A. $m = 65$ $n = 1$</p> <p>B. $m = 100$ $n = 65$</p> <p>C. $m = 93$ $n = 100$</p> <p>D. $m = 65$ $n = 100$</p> <p>6.RP.3c</p>	

Question**Show your work**

_____ 44. Which data table is represented by the dot plot below?



A.

Grade	Number of Students
1	50
2	60
4	70
5	80
5	90
3	100

B.

Grade	Number of Students
50	1
60	2
70	4
80	5
90	5
100	3

C.

Grade	Number of Students
50	50
60	120
70	280
80	400
90	450
100	300

D.

Grade	Number of Students
50	3
60	5
70	5
80	4
90	2
100	1

6.SP.5

_____ 45. Debnil has 6 teaspoons of salt. The ratio of teaspoons to tablespoons is 3:1. How many tablespoons of salt does Debnil have?

A. $\frac{1}{18}$

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

C. 2

D. 18

6.RP.3d

Question	Show your work
<p>_____ 46. What number is not part of the solution set to the inequality below?</p> $w - 10 < 16$ <p>A. 11 B. 15 C. 26 D. 27</p> <p>6.EE.5</p>	
<p>_____ 47. A player attempts 15 baskets in a game. He makes 9 of the attempted baskets. Which ratio describes the number of baskets the player made to the number of baskets the player attempted?</p> <p>A. $\frac{3}{5}$ B. $\frac{5}{3}$ C. $\frac{2}{5}$ D. $\frac{5}{2}$</p> <p>6.RP.1</p>	
<p>_____ 48. Felicity babysat 2 hours each night for 10 nights. She earned a total of \$180 babysitting. Felicity wants to calculate her hourly rate. How much did Felicity earn per hour babysitting?</p> <p>A. \$9 B. \$15 C. \$18 D. \$20</p> <p>6.RP.2</p>	

Question**Show your work**

_____ 49. A bakery sells 5 apple muffins for every 2 bran muffins sold. Which table shows this ratio?

A

Apple	Bran
5	2
10	12
20	22

C

Apple	Bran
5	2
18	8
20	10

B

Apple	Bran
10	4
15	6
35	14

D

Apple	Bran
20	4
30	6
40	8

6.RP.3

_____ 50. A salesperson had \$240,00 in the sales last year, which 60% of the sales she had this year. Which equation could be used to determine x, the salesperson's total amount of sales, in dollars, for this year?

A. $\frac{240,000}{x} = \frac{60}{100}$

B. $\frac{240,000}{100} = \frac{x}{60}$

C. $\frac{60}{240,000} = \frac{x}{100}$

D. $\frac{60}{100} = \frac{x}{240,000}$

6.RP.3

Two students evaluate the expression $17(4 + 15)$.

- Student A evaluates the expression by adding the product of 17 and 4 to the product of 17 and 15.
- Student B evaluates the expression by determining the product of 17 and 19.

Is each student's evaluation correct or incorrect?

An office supply store sells boxes of pencils. Each box contains 160 pencils. Write an equation that represents the total number of pencils, y , in x boxes.

Equation _____

If $x = 12$ for one day of sales, use your equation to find the total number of pencils the supply store sells.

Show your work.

Two students, Student A and Student B, claim to know the correct representation of the expression $\frac{9}{y}(3t)$.

- Student A represents the expression as the product of 9 and y times the product of 3 and t .
- Student B represents the expression as the quotient of 9 and y times the sum of 3 and t .

Both students' claims are incorrect. What makes each representation incorrect?

Explain your answer.

Ryan delivers flowers to two customers. He drives for 12 minutes at an average speed of 40 miles per hour to reach his first customer. He then drives for 15 minutes at an average speed of 50 miles per hour to reach his second customer. During the 27 minutes of driving time, how many total miles does Ryan drive?

Show your work.

Winston earns \$140.00 by selling 56 hot dogs at a concession stand at school. Using the same rate for the cost of one hot dog, how many more hot dogs would Winston need to sell to earn a total of \$175.00?

Show your work.