



# CHANNEL VIEW

An Expeditionary Learning School



100-00 Beach Channel Drive  
Rockaway Beach, NY 11694  
(718) 634-1970 Fax (718) 734 - 3296

*Denise Harper, Principal*  
*Joseph Featherston, Assistant Principal*  
*Maureen Powderly, Assistant Principal*  
*Craig Dorsi, Assistant Principal*  
*Santa Gonzalez, Assistant Principal*

June 2019  
Entering Grade 7

Dear Parents:

In our effort to academically prepare your child for the coming school year, the math teachers at Channel View School for Research have prepared a math packet for the summer vacation to help your child reinforce and maintain his/her math skills.

Students are expected to complete all assigned work in the packet. Parents are asked to certify that their child completed the assignment. The math packet will be collected, scored, and reviewed in class. The completed math packet is due to your child's math teacher on the first day of school, **Thursday, September 5, 2019.**

Working together we can insure maximum success for your child. Your cooperation in this matter is appreciated.

We wish you a happy and healthy summer.

Sincerely,

Mrs. Harper-Richardson  
Principal

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I certify that my child has completed the required 2019 Summer Vacation Math Assignment.

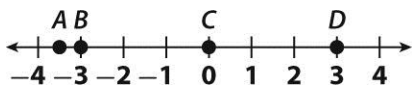
Student's Name \_\_\_\_\_ Entering Grade \_\_\_\_\_

Parent's Signature \_\_\_\_\_ Date \_\_\_\_\_

Channel View School: Entering Grade 7 Vacation Packet

## Entering Grade 7 Mathematics: Summer Vacation Packet

1. Which of the following points is graphed at the opposite of  $-3$  on the number line below?



- A A                      C C  
B B                      D D
2. Candice recorded outdoor temperatures of  $-5^\circ\text{C}$ ,  $-1^\circ\text{C}$ , and  $-2^\circ\text{C}$ . Which of the following correctly compares the three temperatures?

- A  $-5 < -1 < -2$   
B  $-1 < -2 < -5$   
C  $-2 < -1 < -5$   
D  $-5 < -2 < -1$

3. Which of the following pairs shows an integer and its opposite?

- A 7,  $-7$   
B 7,  $\frac{1}{7}$   
C  $-7$ ,  $-\frac{1}{7}$   
D  $-\frac{1}{7}$ ,  $\frac{1}{7}$

4. Which number has the same absolute value as  $-5$ ?

- A  $-\frac{1}{5}$                       C 0  
B  $\frac{1}{5}$                          D 5

5. What is the greatest common factor of 30 and 45?

- A 1                                C 15  
B 5                                D 30

6. What is the least common multiple of 16 and 24?

- A 4                                C 24  
B 16                               D 48

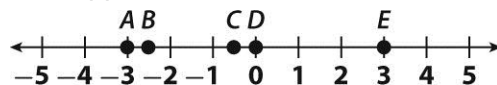
7. Jason plotted points on a number line at the four values below.

$$0.75, -\frac{2}{3}, -0.4, \frac{7}{8}$$

Which of these values is farthest from zero?

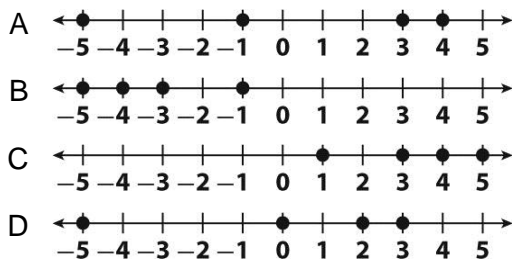
- A 0.75                            C  $-0.4$   
B  $-\frac{2}{3}$                             D  $\frac{7}{8}$

8. Which pair of points graphed below have values that are opposites?



- A A and B                        C C and E  
B B and D                        D A and E

9. Which number line shows the values of  $|1|$ ,  $|-3|$ ,  $|-4|$  and  $|5|$ ?



10. Susie divided a 9-pound bag of apples into 5 equal piles. How many pounds of apples are in each pile?

- A  $\frac{1}{5}$  lb                      C  $1\frac{4}{5}$  lb  
 B  $\frac{5}{9}$  lb                        D  $1\frac{5}{4}$  lb

11. Stephen's glass holds 450 milliliters of milk. Farrah's glass holds  $\frac{2}{5}$  as much milk. How much milk does Farrah's glass hold?

- A 90 mL                        C 225 mL  
 B 180 mL                      D 360 mL

12. Which of the following expressions is equivalent to the expression below?

$$\frac{4}{7} \times \frac{5}{9}$$

- A  $\frac{5}{9} \div \frac{4}{7}$                       C  $\frac{4}{9} \div \frac{5}{7}$   
 B  $\frac{4}{7} \div \frac{5}{9}$                       D  $\frac{4}{7} \div \frac{9}{5}$

13. Leah cut a  $7\frac{1}{2}$ -inch piece of ribbon into pieces that are each  $\frac{3}{4}$  of an inch long. How many pieces of ribbon did she cut?

- A 6 pieces                      C 10 pieces  
 B 9 pieces                      D 15 pieces

14. Jonas is making a trail mix recipe that calls for  $3\frac{1}{2}$  cups of nuts and  $1\frac{1}{2}$  cups of raisins.

Jonas mixes the nuts and raisins together. He will then divide the mixture into plastic bags containing  $\frac{1}{4}$  cup of trail mix in each bag. How many plastic bags does Jonas need?

- A 1                                      C 20  
 B 5                                      D 50

15. Serena has 6,783 seeds to plant in her vegetable garden. She will plant 119 seeds per row. How many rows of vegetables will she have?

- A 42                                    C 69  
 B 57                                    D 73

16. Jinwon hit a golf ball 145.7 yards. Kayla hit a golf ball 122.95 yards. How much farther did Jinwon hit a golf ball?

- A 22.75 yards  
 B 30.25 yards  
 C 80.12 yards  
 D 108.36 yards

17. Gabriel drives 80 kilometers in one hour. If he drives at the same speed, how many kilometers can he drive in 3.75 hours?

- A 24.75 km                          C 80.75 km  
 B 30 km                                D 300 km

18. Alissa's budget is shown in the circle graph below. Her total monthly budget is \$1,500. How much does Alissa spend on rent?



- A \$250                      C \$450  
 B \$300                      D \$500
19. In Evan's math class, there are 17 boys and 21 girls. Which of the following is the ratio of boys to girls in the class?
- A  $\frac{17}{38}$                       C  $\frac{17}{21}$   
 B  $\frac{21}{38}$                       D  $\frac{21}{17}$
20. Sara bought a 16-ounce jar of strawberry jam for \$3.20. What is the unit price?
- A \$0.02/oz  
 B \$0.50/oz  
 C \$0.20/oz  
 D \$5.00/oz
21. Liam bought 8 quarts of juice at the grocery. How many gallons of juice did he buy?
- A 1 gal                      C 3 gal  
 B 2 gal                      D 4 gal

22. Zach is making a recipe that requires 1 cup of vinegar and 3 cups of water. Which of the following combinations shows the same ratio of vinegar to water?

- A 2 cups of vinegar to 3 cups of water  
 B 2 cups of vinegar to 6 cups of water  
 C 3 cups of vinegar to 1 cup of water  
 D 3 cups of vinegar to 6 cups of water

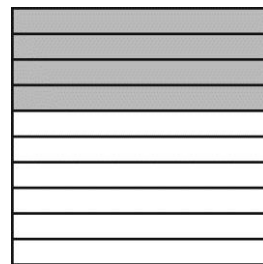
23. Nora bikes 30 miles per hour. Jiro bikes 45 miles per hour. Nora and Jiro each bike for 5 hours. How many more miles does Jiro bike?

- A 15 mi                      C 150 mi  
 B 75 mi                      D 225 mi

24. On a certain map, 1.25 inches represents 20 miles. Longwood and Milltown are 5 inches apart on the map. What is the actual distance between Longwood and Milltown?

- A 20 mi                      C 80 mi  
 B 25 mi                      D 100 mi

25. What percent of the rectangle below is shaded?



- A 20%                      C 40%  
 B 30%                      D 80%

26. What is the value of the power below?

$$(-4)^3$$

- A 12                      C -64  
B -16                     D 81

27. What are all the factors of 18?

- A 1, 2, 3, 6  
B 2, 3, 6, 9  
C 1, 2, 3, 6, 9  
D 1, 2, 3, 6, 9, 18

28. What is the value of the expression below?

$$205 - (7 - 2)^3 \div 5$$

- A 16                      C 40  
B 36                      D 180

29. Which of the following expressions is equivalent to the expression below?

$$2(7x + 3 - x)$$

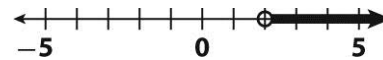
- A  $12x + 6$   
B  $14x + 6$   
C  $17x - 2$   
D  $11x + 3$

30. Which is a solution of the equation below?

$$m - 9 = 4$$

- A  $m = -5$                       C  $m = 5$   
B  $m = -13$                      D  $m = 13$

31. Which inequality is shown on the number line below?



- A  $p < 2$   
B  $p \leq 2$   
C  $p > 2$   
D  $p \geq 2$

32. Write an algebraic expression for the phrase below.

12 less than twice a number  $n$

- A  $12 - n - n$                       C  $6 - 2n$   
B  $2n - 12$                          D  $12n - 2$

33. Evaluate the expression below for  $x = -4$ .

$$6(x + 15)$$

- A 5  
B -5  
C -66  
D 66

34. Combine like terms to simplify the expression below.

$$14x - (2x - y) - y$$

- A  $12x$   
B  $14x - y$   
C  $12x - y$   
D  $14x$

35. A high-school band has  $d$  drummers and 10 violinists. There are 2 more violinists than drummers. Which of the following equations represents the situation?

- A  $d = 10 + 2$
- B  $d = 10 - 2$
- C  $d = 2 - 10$
- D  $d = 2 \times 10$

36. A student bought a book for \$7.50 and a pen. The total cost was \$9.50. Which of the following equations can be used to find the cost of the pen?

- A  $p = 7.5b$
- B  $p = 9.5b$
- C  $9.50 + p = 7.50$
- D  $7.50 + p = 9.50$

Use the table for 37 and 38.

**Auto Repair Charges**

Hours, $x$	2	5	7
Charge, $y$ (\$)	180	450	630

37. Which equation expresses  $y$  in terms of  $x$ ?

- A  $y = 90x$
- B  $y = 180x$
- C  $x = 90y$
- D  $x = 2y$

38. What is the charge for a repair that takes 1.5 hours?

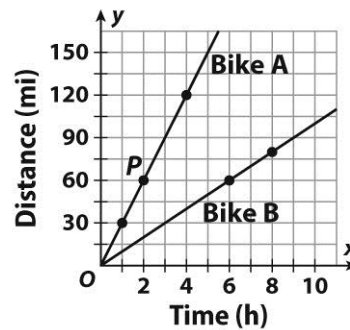
- A \$360
- B \$270
- C \$150
- D \$135

39. Which of the following is a solution to the equation below?

$$\frac{m}{2} = -5$$

- A  $m = -5$
- B  $m = -2$
- C  $m = -10$
- D  $m = 10$

Use the graph for 40–42.



40. What are the coordinates of point  $P$ ?

- A (2, 8)
- B (2, 60)
- C (60, 2)
- D (60, 8)

41. What is the dependent variable?

- A Bike A
- B Bike B
- C time
- D distance

42. Which equation represents Bike B?

- A  $y = 6x$
- B  $y = 10x$
- C  $y = 60x$
- D  $y = 80x$

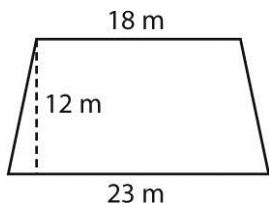
43. A parallelogram has a base of 16 centimeters and a height of 4 centimeters. What is the area of the parallelogram?

- A  $16 \text{ cm}^2$
- B  $32 \text{ cm}^2$
- C  $64 \text{ cm}^2$
- D  $128 \text{ cm}^2$

44. A rectangular prism has a volume of 577.2 cubic feet. The prism is 5.2 feet long and 7.4 feet wide. What is the height of the prism?

- A 15 ft
- B 39 ft
- C 78 ft
- D 111 ft

45. What is the area of the trapezoid below?

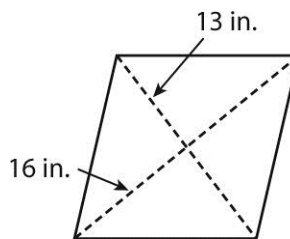


- A  $216 \text{ m}^2$
- B  $246 \text{ m}^2$
- C  $2,484 \text{ m}^2$
- D  $4,968 \text{ m}^2$

46. A right triangle has a height of 21 centimeters and a base of 11.6 centimeters. What is the area of the triangle?

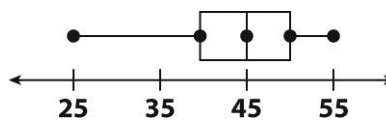
- A  $121.8 \text{ cm}^2$
- B  $243.6 \text{ cm}^2$
- C  $487.2 \text{ cm}^2$
- D  $5,115.6 \text{ cm}^2$

47. What is the area of the rhombus shown below?



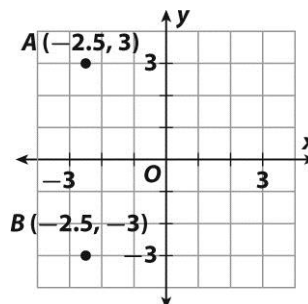
- A  $3 \text{ in}^2$
- B  $104 \text{ in}^2$
- C  $208 \text{ in}^2$
- D  $416 \text{ in}^2$

48. What is the median of the data represented in the box plot below?



- A 25
- B 35
- C 45
- D 55

49. What is the distance between points A and B on the grid?



- A 3 units
- B 4.5 units
- C 6 units
- D 6.5 units

50. Sandra worked 6.2 hours on Wednesday, 5.5 hours on Thursday, and 3.5 hours on Friday. Which of the following is closest to the mean number of hours she worked over the three-day period?

- A 3 h
- B 4 h
- C 5 h
- D 6 h