



# CHANNEL VIEW

An Expeditionary Learning School

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*Denise Harper, Principal*  
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June 2020  
Entering Grade 8

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 10, 2020.**

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 2020 Summer Vacation Math Assignment.

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

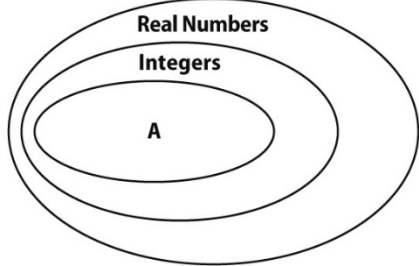
Parent's Signature \_\_\_\_\_ Date \_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_

## Entering Grade 8 Mathematics: Summer Packet

<p>1. What is the product of <math>(-2)(4)(-3)</math>?</p> <p>A -24                      C 12 B -12                      D 24</p>	<p>6. Which value is equal to <math>-18 \div (-9)</math>?</p> <p>A -2                      C 0.2 B -0.2                      D 2</p>
<p>2. A football team lost 3 yards on one play and lost 6 yards on the next play. What was their total change in yardage in the two plays?</p> <p>A -18 yd                      C -3 yd B -9 yd                      D 18 yd</p>	<p>7. A rectangle is 8 inches long and 4 inches wide. A similar rectangle is 12 inches long. What is the width of the second rectangle to the nearest inch?</p> <p>A 4 in.                      C 8 in. B 6 in.                      D 10 in.</p>
<p>3. What is the value of the power below?</p> <p style="text-align: center;"><math>(-4)^3</math></p> <p>A 12                      C -64 B -16                      D 81</p>	<p>8. Mike scored <math>-5</math> points on the first round and <math>-8</math> on the second round. What was Mike's total score for the two rounds?</p> <p>A -13                      C 3 B -3                      D 13</p>
<p>4. Which of the following is a solution to the equation below?</p> <p style="text-align: center;"><math>\frac{m}{2} = -5</math></p> <p>A <math>m = -5</math>                      C <math>m = -10</math> B <math>m = -2</math>                      D <math>m = 10</math></p>	<p>9. At 6 A.M. the temperature was <math>-8^\circ\text{C}</math>. At noon the temperature was <math>3^\circ\text{C}</math>. What was the change of temperature between 6 A.M. and noon?</p> <p>A <math>-11^\circ\text{C}</math>                      C <math>5^\circ\text{C}</math> B <math>-5^\circ\text{C}</math>                      D <math>11^\circ\text{C}</math></p>
<p>5. Evaluate the expression below for <math>x = -4</math>.</p> <p style="text-align: center;"><math>6(x + 15)</math></p> <p>A 5 B -5 C -66 D 66</p>	<p>10. What is the solution of the system of equations shown below?</p> <p style="text-align: center;"> <math display="block">\begin{cases} y = 3x - 6 \\ y = 2x \end{cases}</math> </p> <p>A (6, 12)                      C (6, 8) B (12, 6)                      D (6, 3)</p>

<p>11. Which label could replace "A" in the diagram below?</p>	<p>15. The points <math>A(0, 0)</math>, <math>B(1, 1)</math>, <math>C(2, 2)</math> and <math>D(3, 3)</math> all lie on the line <math>y = x</math>. Ben calculated the slopes of <math>\overline{AB}</math> and <math>\overline{CD}</math>. What can he conclude?</p> <p>A The slopes are the same. B The slope of <math>\overline{AB}</math> is greater than the slope</p>
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- A Rational Numbers
- B Whole Numbers
- C Negative Numbers
- D Irrational Numbers

- of  $\overline{CD}$ .
- C The slope of  $\overline{CD}$  is greater than the slope of  $\overline{AB}$ .
- D The slopes of  $\overline{AB}$  and  $\overline{CD}$  are negative.

12. Alejandro wrote the number 6,240,000 in scientific notation. Which number did he write?

- A  $62.4 \times 10^{\square 6}$
- B  $6.24 \times 10^{\square 5}$
- C  $62.4 \times 10^5$
- D  $6.24 \times 10^6$

16. Between which two integers does the value of  $\sqrt{50}$  lie?

- A 4 and 5
- B 7 and 8
- C 8 and 9
- D 49 and 51

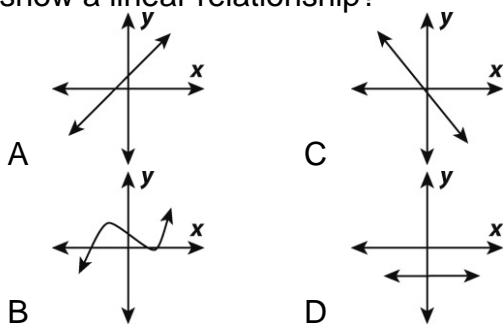
13. Candice recorded outdoor temperatures of  $-5^\circ\text{C}$ ,  $-1^\circ\text{C}$ , and  $-2^\circ\text{C}$ . Which of the following correctly compares the three temperatures?

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

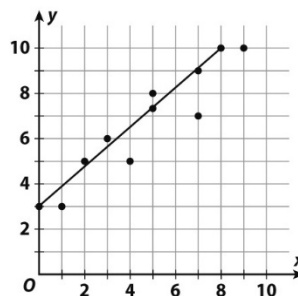
17. Simplify  $\frac{1}{2}(4a + b) - \frac{1}{4}(4a + b)$ .

- A  $a$
- B  $a + \frac{1}{4}b$
- C  $2a + \frac{1}{4}b$
- D  $2a - b$

14. Which of the following graphs does **not** show a linear relationship?



18. Which of the following best describes the relationship between the two variables in the scatter plot and trend line below?



- A positive linear association
- B negative linear association
- C no association
- D quadratic association

19 Which table represents the same linear relationship as the equation  $y = 3x + 5$ ?

A	x	0	1	2	5
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22. Which of the following tables represents a function?

x	1	4	4	5
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<b>y</b>	0	11	14	17
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B

<b>x</b>	2	3	4	5
<b>y</b>	1	4	7	10

C

<b>x</b>	2	3	4	5
<b>y</b>	11	14	17	20

D

<b>x</b>	2	3	4	5
<b>y</b>	15	20	25	30

A

<b>y</b>	-2	5	2	6
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B

<b>x</b>	0	1	2	3
<b>y</b>	2	3	4	-3

C

<b>x</b>	0	1	2	2
<b>y</b>	1	5	5	8

D

<b>x</b>	0	1	2	1
<b>y</b>	8	9	8	-4

20. Which decimal is equivalent to  $\frac{7}{20}$ ?

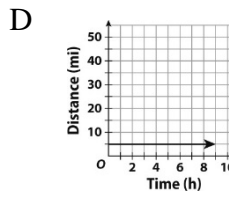
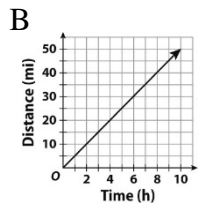
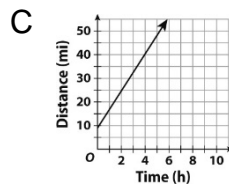
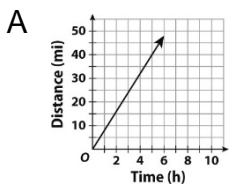
- A 0.35                      C 2.85  
 B 1.34                      D 7.20

23. What is the value of the expression below?

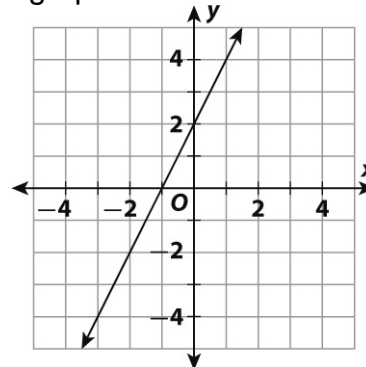
$$(-64) \div (-16)$$

- A 4                              C -4  
 B -1                            D -8

21. Mariana rides her bicycle 5 miles per hour. Which graph represents this relationship?



24. Which of the following is the equation of the line graphed below?

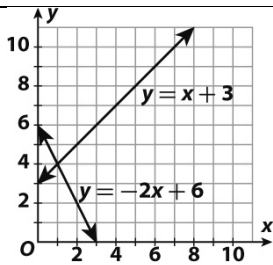


- A  $y = -2x + 2$                       C  $y = -2x - 2$   
 B  $y = 2x - 2$                       D  $y = 2x + 2$

25. What is the solution of the system of equations graphed below?

30. Which equation represents the data shown in the table below?

<b>Cost (y)</b>	5	10	15	20
<b>Gallon (x)</b>	2	4	6	8



- A (0, 3)                      C (1, 4)  
 B (0, 6)                      D (3, 0)

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- A  $y = 2x + 1$                       C  $y = 2.5x$   
 B  $y = 3x - 1$                       D  $y = 2.5x + 1$

26. A bicycle rental company charges a \$12 fee plus \$3 per hour. Which equation represents this linear relationship?

- A  $y = 12x - 3$                       C  $y = 3x - 12$   
 B  $y = 12x + 3$                       D  $y = 3x + 12$

31. A student spends the same amount each week for bus fare. In 5 weeks, he spends \$115. Which equation shows this relationship? Let  $x$  = number of weeks.

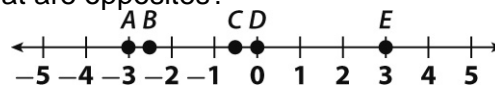
- A  $y = 3.22x$                       C  $y = 23x$   
 B  $y = 5x$                               D  $y = 115x$

27. What is the mean for the set of data shown below?

27, 32, 14, 19, 24, 26, 22, 32, 29

- A 18                                      C 26  
 B 25                                      D 32

32. 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

28. What is the greatest integer that satisfies the inequality  $3x - 4 \leq 8$ ?

- A 4                                        C 6  
 B 5                                        D 7

33. Which of the following is the solution for the inequality below?

$$-3x + 2 < 8$$

- A  $x > -3$                               C  $x < -2$   
 B  $x > -2$                               D  $x < -3$

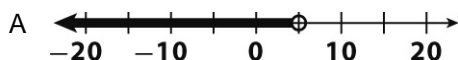
29. If  $a$  is an integer, when is  $\frac{a}{b}$  always equal to an integer?

- A  $b = 0$                       C  $b > 1$   
 B  $b < 1$                       D  $b = 1$  or  $-1$

34. A storage trunk is 36 inches wide, 22 inches deep, and 44 inches high. What is the volume of the trunk to the nearest cubic inch?

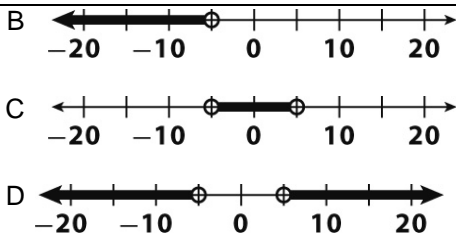
- A 4,356 in<sup>3</sup>                              C 34,848 in<sup>3</sup>  
 B 17,424 in<sup>3</sup>                              D 46,656 in<sup>3</sup>

35. Which number line represents the solution to the inequality  $4x + 20 < 40$ ?



39. Which equation represents the data shown in the table below?

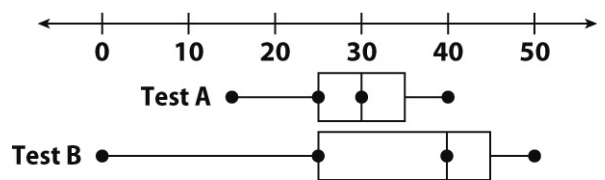
Fence Length (y)	100	150	180	240
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Number of Posts ( $x$ )	11	16	19	25
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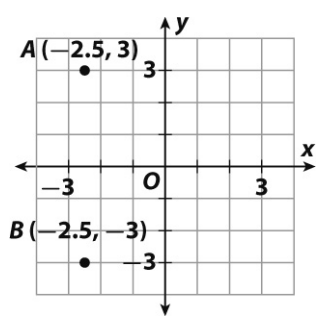
- A  $y = 10x - 1$
- B  $y = 10(x - 1)$
- C  $y = 10x + 1$
- D  $y = 10(x + 1)$

Use the box plot for 36–37.



36. What is the difference between the medians for Test A and Test B?
- A 10
  - B 15
  - C 20
  - D 30

40. 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

37. Which statement is true based on the box plots?
- A Test A had the greater range of scores.
  - B More students did better on Test A than on Test B.
  - C The interquartile range for Test B is greater than for Test A.
  - D One half of the students on each test got 25 or fewer questions correct.

41. Which is the equation of the line that represents the data shown in the table below?

$x$	-1	0	1	2	3
$y$	5	8	11	14	17

- A  $y = -3x + 8$
- B  $y = 3x + 8$
- C  $y = -3x - 8$
- D  $y = 3x - 8$

38. What is the value of  $y$  that satisfies the equation below?

$$\frac{y}{3} = 12$$

- A 3
- B 4
- C 36
- D 63

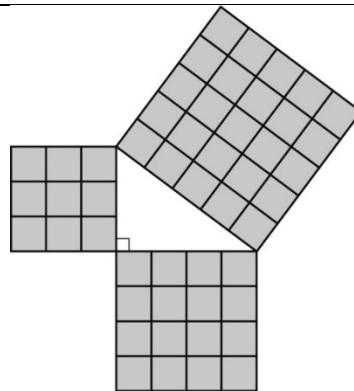
42. Which shows the solution to the inequality  $-4x > 36$ ?

- A  $x > -9$
- B  $x > 9$
- C  $x < 9$
- D  $x < -9$

43. A museum has 639 pieces of African art in its collection. This is 55 fewer pieces of art than one-third of the art pieces the museum has from Europe. Which equation can you use to find  $n$ , the number of European art works in the museum's collection?

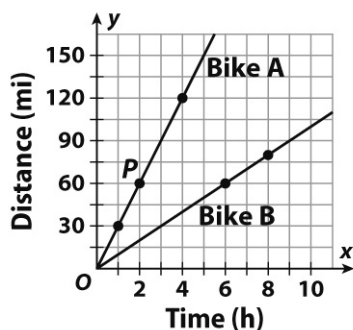
47. Martin used the diagram below to explain the Pythagorean theorem to a classmate. Which statement did Martin use in his explanation?

- A  $\frac{1}{3}n - 55 = 639$
- B  $\frac{1}{3}n + 55 = 639$
- C  $3n - 55 = 639$
- D  $3n + 55 = 639$



- A  $3^2 + 4^2 < 5^2$
- B  $5^2 + 4^2 = 3^2$
- C  $3^2 + 5^2 = 4^2$
- D  $3^2 + 4^2 = 5^2$

Use the graph for 44–46.



44. What are the coordinates of point *P*?
- A (2, 8)
  - B (2, 60)
  - C (60, 2)
  - D (60, 8)

45. What is the dependent variable?

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

46. Which equation represents Bike B?

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

48. A cell phone company charges \$50 for the phone plus a monthly service charge of \$30. The equation below describes the total cost *y* after *x* months.

$$y = 30x + 50$$

Which is true of the relationship between *x* and *y*?

- A It is linear and proportional.
- B It is linear and non-proportional.
- C It is not linear and proportional.
- D It is not linear and non-proportional.

49. Arturo's gym membership costs \$100 per year plus \$20 per month. Which equation represents the cost of membership for *x* months?

- A  $y = 0.2x + 100$
- B  $y = 2x + 100$
- C  $y = 20x + 100$
- D  $y = 100x + 20$

50. Combine like terms to simplify the expression below.

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

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