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Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**YOU MAY USE A CALCULATOR!**

You have a **maximum of 90 minutes** to complete this assessment. You may write on the document.

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1. (8.EE.3)

 The speed of light in a vacuum is 299,792,458 meters per second.

 Which number, written in scientific notation, is the best approximation

 of the speed of light?

 A. 0.3 x 107 meters per second

 B. 0.3 x 108 meters per second

 C. 3.0 x 107 meters per second

 D. 3.0 x 108 meters per second

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2. (8.EE.8b)

 The graph of a system of linear equations is shown below.

Which ordered pair is the best estimate for the solution of this system of linear equations?

A. (-6, -2)

B. (-3, 2)

C. (4, -4)

D. (6, 8)

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3. (8.F.3)

 Which equation does not represent a linear function?

A. 

B. 

C. 

D. 

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4. (8.F.5)

 The graph of a function is shown below.

For which interval of x is the function decreasing and nonlinear?

 A. between -4 and -2

 B. between -2 and 0

 C. between 0 and 2

 D. between 2 and 4

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5. (8.F.4)

 The cost to rent a paddleboat at the park includes an initial fee of

 $7.00, plus $3.50 per hour. Which equation models the relationship

 between the total cost, *y*, and the number of hours, *x*, that the paddleboat

 is rented?

 A. *y* = 3.5*x* + 7

 B. *y*  = 7*x* + 3.5

 C. 

 D. 

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6. (8.SP.3)

 The scatter plot below shows the numbers of customers in a restaurant

 for four hours of the dinner service on two different Saturday nights.

 The line shown models this relationship, and *x* = 0 represents 7 PM.

What does the value of the *y*-intercept represent?

 A. the number of customers at 7 PM

 B. the number of customers at 11 PM

 C. the change in the number of customers each hour

 D. the change in the number of customers during four hours of the dinner service

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7. (8.EE.1)

 Which exponential expression is equal to ?

 A. 

 B. 

 C. 

 D. 

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8. (8.EE.5)

 During an experiment, the temperature of a substance increased at

 a constant rate of three degrees Celsius (°C) per hour. Which graph

 represents this relationship?



 A.  B.



 C. D.

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9. (8.EE.8b)

 A system of equations is shown below.

 5*x* + 3*y* = -6

 2*x* + *y* = -4

 What statement about the ordered pair (-6, 8) is true?

 A. it is the only solution to the system

 B. it is not a solution to either equation

 C. it is one of many solutions to the system

 D. it is a solution to the first but not the second equation

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10. (8.F.2)

 Given:

Function 1 Function 2

 

 Which statement about the functions is true?

 A. Function 1 has the greater rate of change and the greater *y*-intercept.

 B. Function 2 has the greater rate of change and the greater *y*-intercept.

C. Function 1 has the greater rate of change, and function 2 has the greater *y*-intercept.

D. Function 2 has the greater rate of change, and function 1 has the greater *y*-intercept.

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11. (8.EE.7a)

 Determine the number of solutions that exist for the equation below.

 

 A. there no solutions

 B. there is one solution

 C. there are two solutions

 D. there are infinitely many solutions

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12. (8.F.1)

 The table below shows a relation between *x* and *y*.

|  |  |
| --- | --- |
| *x* | *y* |
| -4 | 16 |
| -2 | 4 |
| 0 | 0 |
| 2 | 4 |
| 4 | 16 |
| 6 | 36 |

A student made the claim that the relation is a function. Which statement explains why the student is correct or incorrect?

A. The student is correct because there are no repeated values in the

 *y*-column.

B. The student is correct because there are no repeated values in the

 *x*-column.

C. The student is incorrect because the *x-*values skip values.

D. The student is correct because the point (0, 0) is included in the table.

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13. (8.NS.1)

 Classify 1.2121315… as terminating, repeating or irrational.

 A. Terminating, equal to 1.

 B. Repeating, equal to .

 C. Repeating, equal to .

 D. Irrational.

14. (8.EE.7a)

 Solve the equation: 3*x* – 8 = 2(*x* + 4) +4*x* + -(2)

 A. 

 B. 

 C. 

 D. 

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15. (8.EE.6)

Point *A* and point *B* are collinear and graphed below. Which of the

following equations is the equation of the line created by these two

points?

 

 A. 

 B. 

 C. 

 D. 