TEST NAME: **Jan 17 Math 1**
TEST ID: **2809264**
GRADE: **09 - Ninth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **My Classroom**

Student: _____

Class: _____

Date: _____

1. **Which point is the *x*-intercept of the line represented by the equation $4x - 2y = -16$?**

   A. $(8, 0)$

   B. $(4, 0)$

   C. $(-2, 0)$

   D. $(-4, 0)$

2. The function $f(x) = 2{,}500(0.97)^x$ models the value of an investment after x months. Which statement is true about the value of the investment?

   A. The value of the investment increases by 3% each month.

   B. The value of the investment decreases by 3% each month.

   C. The value of the investment increases by 97% each month.

   D. The value of the investment decreases by 97% each month.

3. What is the y-intercept of the graph of $f(x) = 2(1.5)^x + 3$?

   A. 2

   B. 3

   C. 4

   D. 5

4. **Look at the equation below.**

$$y = -Ax + 5$$

For what value of A will the graph of the equation have an x-intercept of $\frac{5}{3}$?

   A. $\frac{5}{3}$

   B. 3

   C. $\frac{10}{3}$

   D. 5

5. **What are the *x*- and *y*-intercepts of the graph of $-2x + y = 6$?**

A. $x\text{-intercept} = -6; y\text{-intercept} = 3$

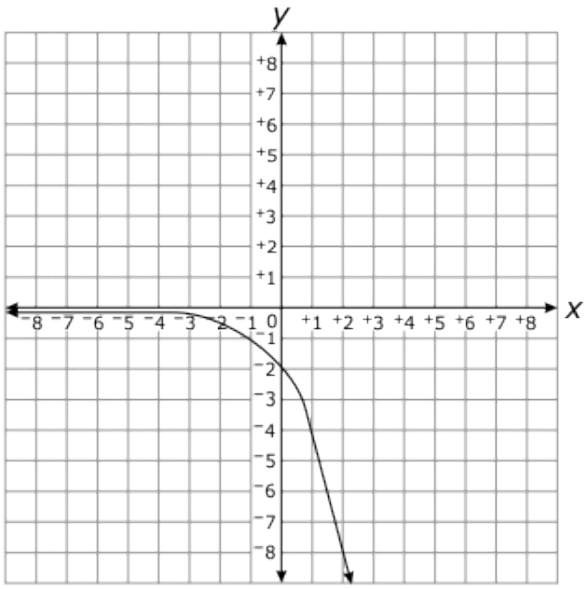
B. $x\text{-intercept} = -3; y\text{-intercept} = 6$

C. $x\text{-intercept} = 3; y\text{-intercept} = -6$

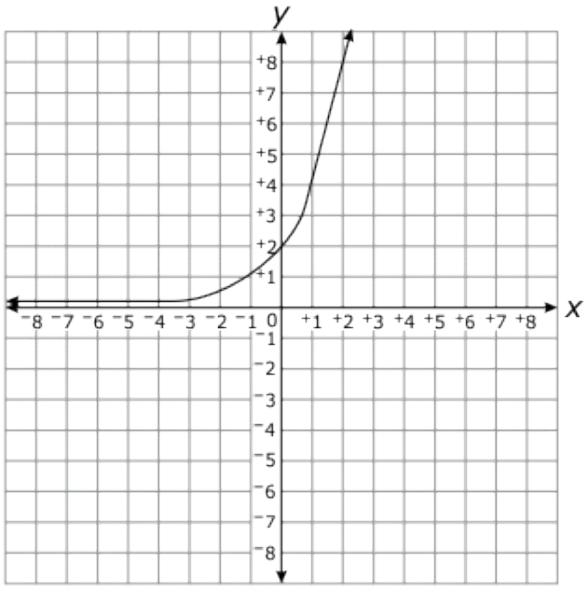
D. $x\text{-intercept} = 6; y\text{-intercept} = -3$

6. Which is the graph of $y = {}^{-}2(2)^{x}$?

A.



B.



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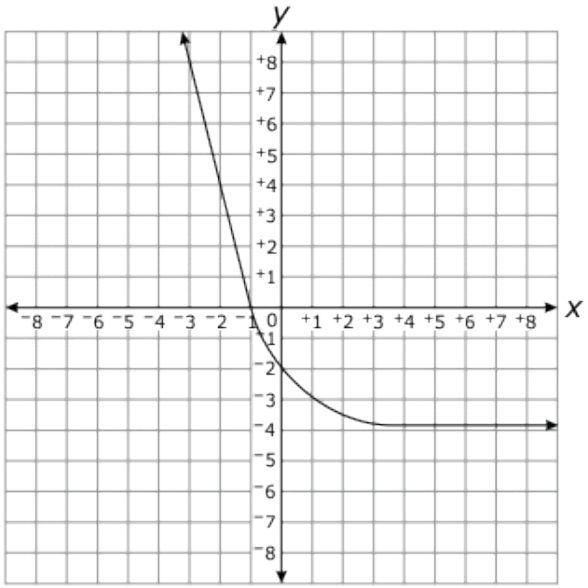

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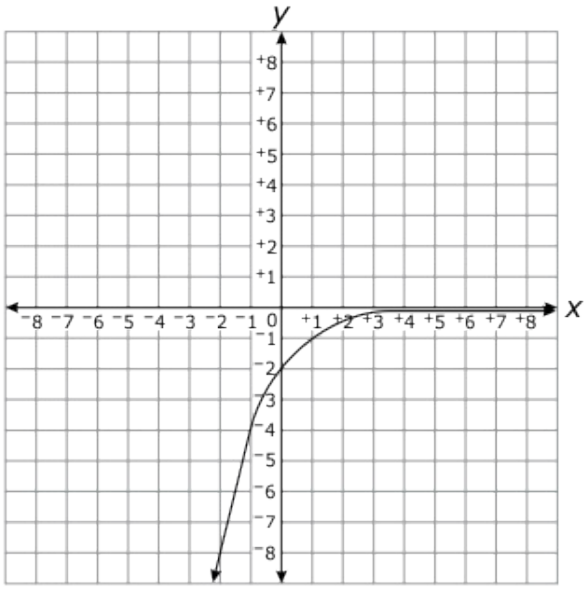


7. **What point is the *x*-intercept of the line represented by the equation** $6x + 9y = 54$?

A. $(0, 6)$

B. $(0, 9)$

C. $(6, 0)$

D. $(9, 0)$

8. What is the y-intercept for the graph of the function $f(x) = 30(1.05)^x$?

A. 0

B. 1

C. 5

D. 30

9. **David rented a small truck for one day. The truck cost $30.00 per day plus $0.40 per mile driven. Which table represents these costs?**

A.

One Day Truck Rental

Miles Driven	Total Cost
5	$30.40
10	$30.80
15	$31.20
20	$31.60
25	$32.00

B.

One Day Truck Rental

Miles Driven	Total Cost
5	$30.00
10	$32.00
15	$34.00
20	$36.00
25	$38.00

C.

One Day Truck Rental

Miles Driven	Total Cost
5	$30.00
10	$30.40
15	$30.80
20	$31.20
25	$31.60

D.

One Day Truck Rental

Miles Driven	Total Cost
5	$32.00
10	$34.00
15	$36.00
20	$38.00
25	$40.00

10. Which type of function ***best*** models the data shown in the table below?

x	***y***
0	4
1	5
2	7
3	11
4	19

A. a linear function, because *y* is changing at a constant rate per unit interval of *x*

B. a linear function, because *y* is changing at a constant percent rate per unit interval of *x*

C. an exponential function, because *y* is changing at a constant rate per unit interval of *x*

D. an exponential function, because *y* is changing at a constant percent rate per unit interval of *x*

11. Which table of values represents an exponential function?

A.

x	$f(x)$
1	3
2	9
3	27
4	81
5	243

B.

x	$f(x)$
1	9
2	12
3	15
4	18
5	21

C.

x	$f(x)$
1	5
2	18
3	37
4	62
5	93

D.

x	$f(x)$
1	3
2	6
3	9
4	12
5	15

12. Sam opens a savings account and deposits some money in the account every month. The table below shows the value of his savings account over a period of 10 months.

Time (in months)	Amount (in dollars)
1	120
2	160
3	200
4	240
5	280
6	320
7	380
8	460
9	560
10	680

Over which interval of time can the relation in the table be modeled by a linear function?

A. 1 to 6 months

B. 1 to 10 months

C. 6 to 10 months

D. 7 to 10 months

13. Which table of values represents a linear function?

A.

x	$f(x)$
4	12
5	15
6	18.75
7	23.4375

B.

x	$f(x)$
4	15
7	24
9	30
15	48

C.

x	$f(x)$
1	10
2	11
3	10
4	7

D.

x	$f(x)$
$^{-}1$	3.375
0	4.5
1	6
2	8

14. The amount of carbon 14 decays in an exponential fashion. Which table could show the approximate amount of carbon 14 over the 5-year interval shown?

A.

Year	Amount of Carbon 14 (in grams)
1	19.800
2	19.602
3	19.406
4	19.212
5	19.020

B.

Year	Amount of Carbon 14 (in grams)
1	20.200
2	20.402
3	20.606
4	20.812
5	21.020

C.

Year	Amount of Carbon 14 (in grams)
1	19
2	18
3	17
4	16
5	15

D.

Year	Amount of Carbon 14 (in grams)
1	21
2	22
3	23
4	24
5	25

15. Two lines are perpendicular. Line 1 goes through the points (8, 10) and (⁻6, 2). Line 2 goes through the point (1, ⁻3). Which is another point that line 2 goes through?

A. (⁻7, 11)

B. (⁻7, ⁻11)

C. (7, 13)

D. (7, ⁻13)

16. Which equation is perpendicular to the equation $ax - cy = d$, where $c \neq 0$?

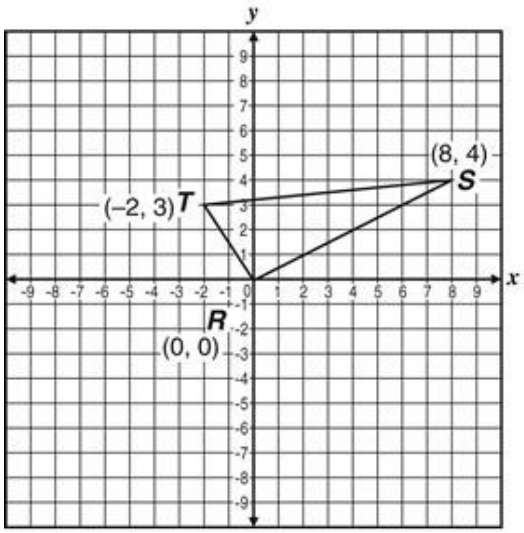
A. $^{-}ax + cy = d$

B. $ax + cy = d$

C. $cx + ay = d$

D. $cx - ay = d$

17. **Which equation represents the line that is parallel to $\overline{RS}$ in the triangle below and passes through Point *T*?**



A. $y = -\frac{1}{2}x + 2$

B. $y = \frac{1}{2}x + 4$

C. $y = -2x - 1$

D. $y = 2x + 7$

18. **Two points on a line are given by the ordered pairs (–6, 2) and (8, 9). Which ordered pair is located half-way between the two points?**

A. (1, 5.5)

B. (2, 11)

C. (14, 7)

D. (–14, –7)

19. **What is the slope of a line that is perpendicular to the graph of** $y + 1 = 5 + \frac{4}{7}x$?

A. $-\frac{7}{4}$

B. $-\frac{4}{7}$

C. $\frac{4}{7}$

D. $\frac{7}{4}$

20. **The coordinates of point *A* are (2, 1) and the coordinates of point *B* are (–4, 9). What are the coordinates of the midpoint of segment *AB*?**

A. $(-2,\ 4)$

B. $(-2,\ 5)$

C. $(-1,\ 4)$

D. $(-1,\ 5)$