

TEST NAME: **Math 1 online feb 07**  
TEST ID: **2859631**  
GRADE: **09 - Ninth Grade**  
SUBJECT: **Mathematics**  
TEST CATEGORY: **My Classroom**

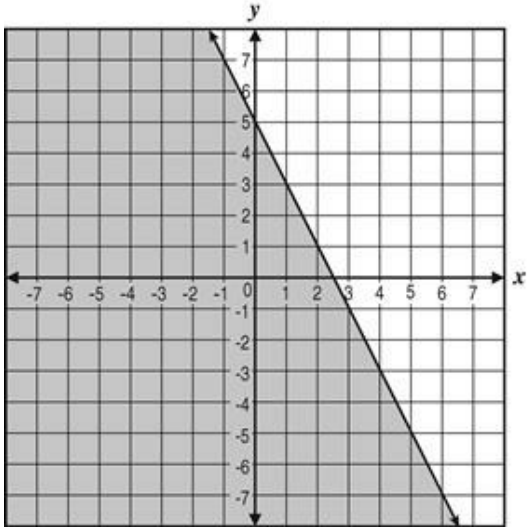
Student: \_\_\_\_\_

Class: \_\_\_\_\_

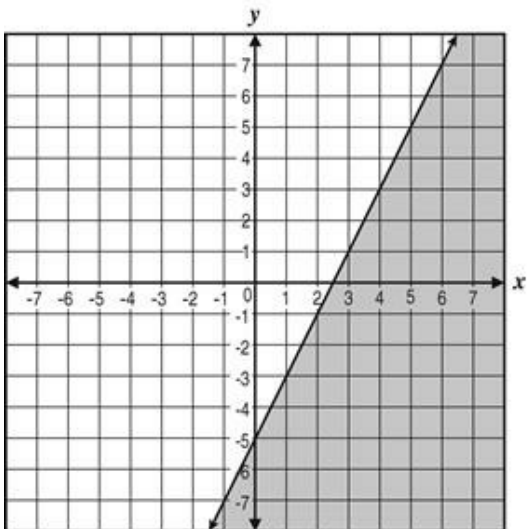
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1. Which is the graph of  $2x - y \geq 5$ ?

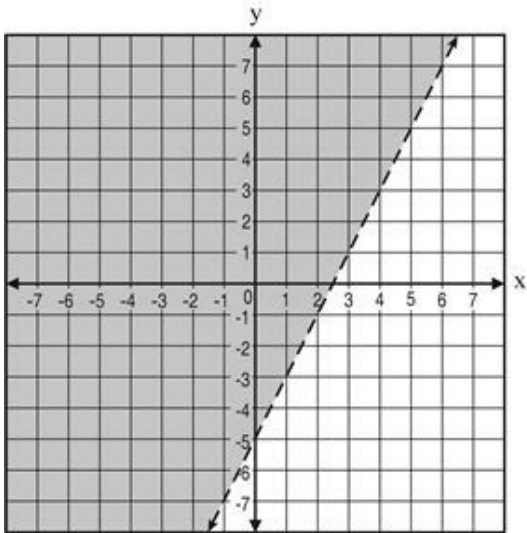
A.



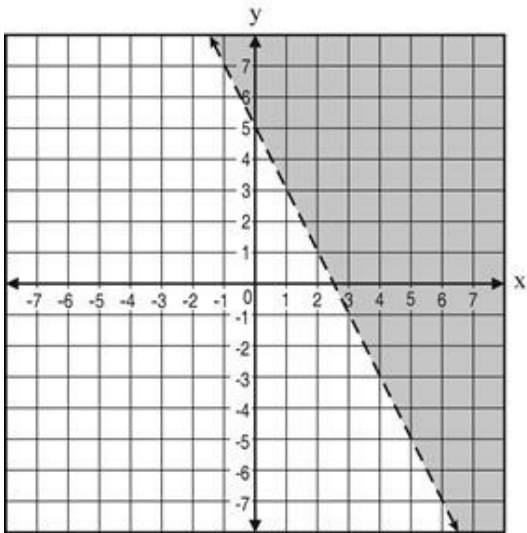
B.



C.

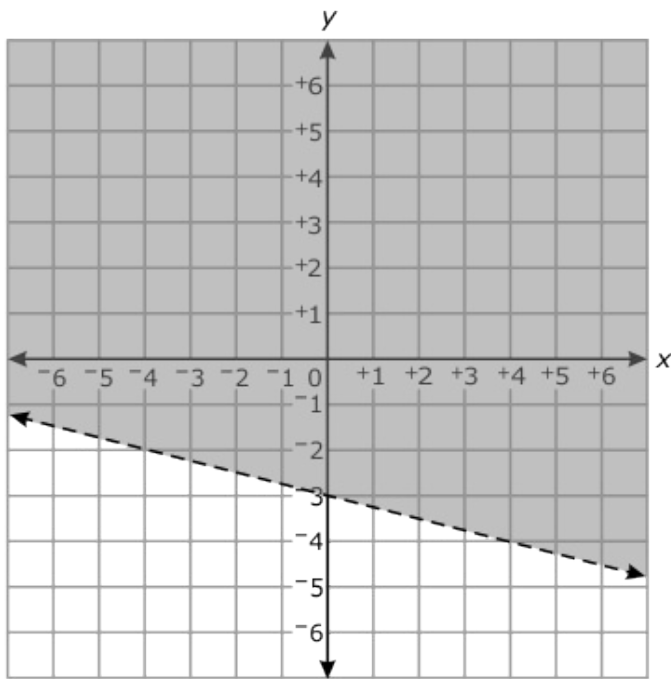


D.

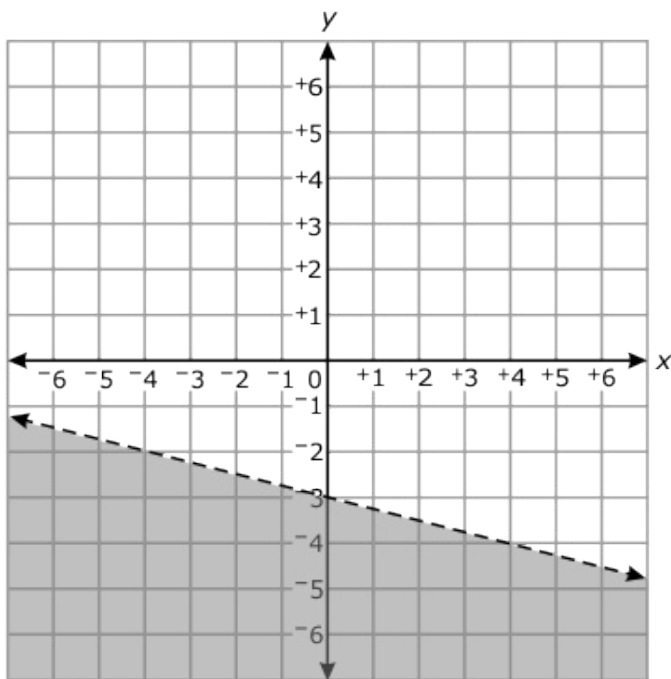


2. Which is the graph of the inequality  $2x - 4y > 3x + 12$ ?

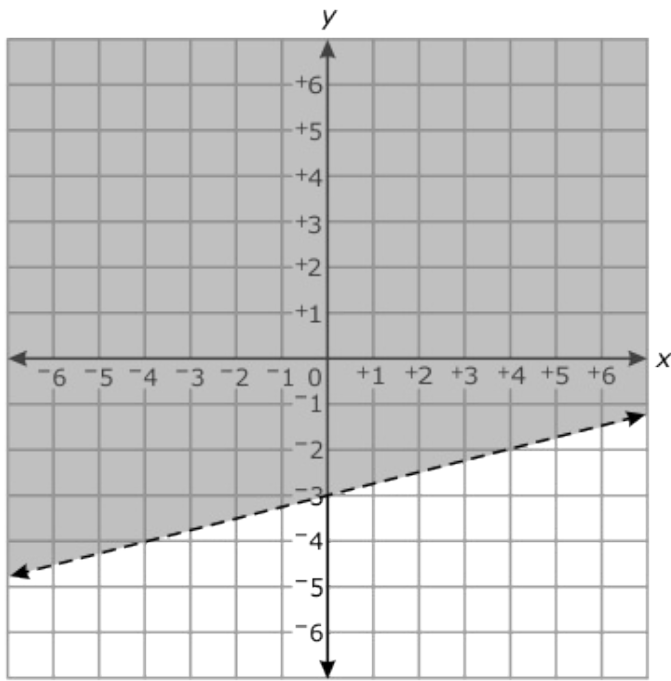
A.



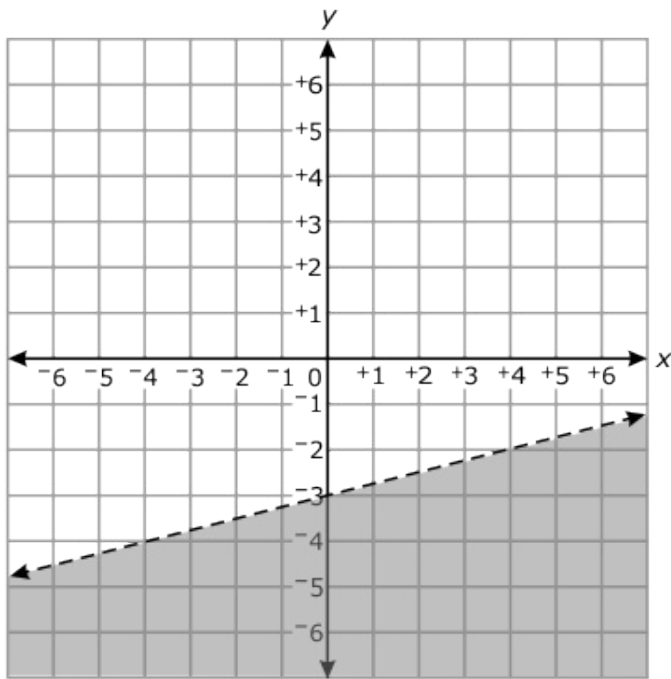
B.



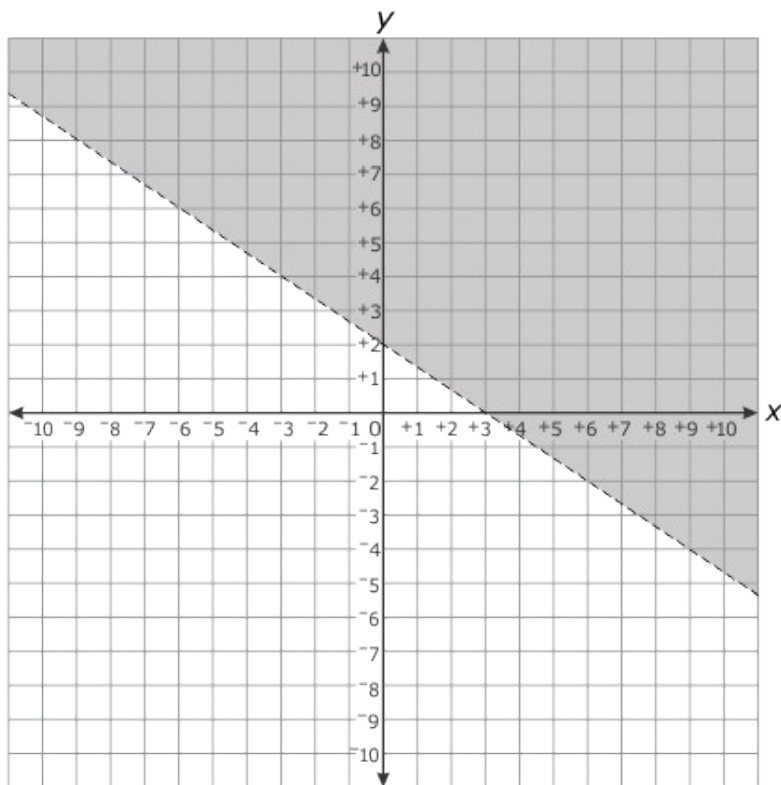
C.



D.



3. Which inequality is graphed below?



- A.  $3y < 2x - 2$
- B.  $y > \frac{2}{3}x + 2$
- C.  $3y > 6 - 2x$
- D.  $y + \frac{2}{3}x < 2$

4. A system of equations is shown below.

$$\begin{aligned}2x - 4y &= -12 \\ x &= 3y + 3\end{aligned}$$

What is the solution to this set of equations?

- A.  $(-3, -2)$
- B.  $(-6, -3)$
- C.  $(-9, -4)$
- D.  $(-24, -9)$

5. A hardware store sells screws and bolts.

- For 8 screws and 4 bolts, the cost is \$1.12.
- For 9 screws and 6 bolts, the cost is \$1.44.

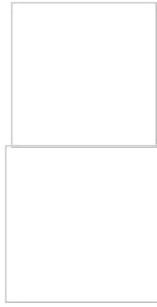
How much does 1 bolt cost?

- A. \$0.04
- B. \$0.12
- C. \$0.15
- D. \$0.20

6. Joe and Charlie ate at the same restaurant. Joe bought 4 hamburgers and 2 sodas for \$12.50. Charlie bought 3 hamburgers and 3 sodas for \$11.25. What was the price of one hamburger?

- A. \$1.25
- B. \$1.50
- C. \$2.25
- D. \$2.50

7. What is the  $x$ -coordinate of the point of intersection for the two lines below?



- A. 4
- B. 1
- C. -1
- D. -4

8. If  $A_1 = 3$  and  $A_{(n+1)} = 2A_n$ , which equation represents the explicit formula for the sequence?

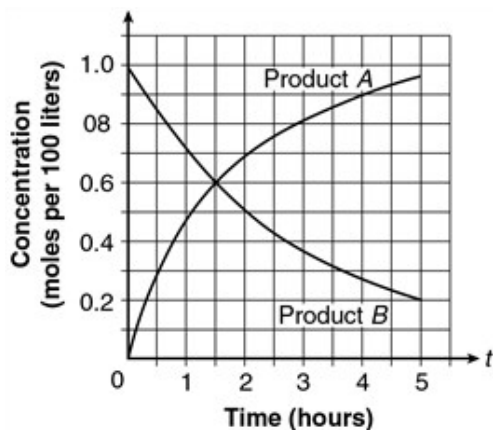
- A.  $A_n = 2 \cdot 3^n$
- B.  $A_n = 2 \cdot 3^{n-1}$
- C.  $A_n = 3 \cdot 2^n$
- D.  $A_n = 3 \cdot 2^{n-1}$

9. Leonard wrote the sequence of numbers below. 9, 15, 21, 27, ... Which expression did he use to form the sequence, where  $n$  is the term number?

- A.  $3n + 3$
- B.  $3n - 3$
- C.  $6n + 3$
- D.  $6n - 3$



10. The concentrations of Product A and Product B at time  $t$  hours after a chemical reaction starts are shown in the graph below.



How many hours after the chemical reaction starts are the concentrations of the two products equal?

- A. 0.6
  - B. 1.0
  - C. 1.5
  - D. 2.0
11. A linear function is shown in the table below.

$x$	$g(x)$
-4	-7
-3	-4
-2	-1
-1	2

Which statement is true?

- A. The  $y$ -intercept of the function is 3.
- B. The  $x$ -intercept of the function is  $\frac{5}{3}$ .
- C. The slope of the function is negative.
- D. The slope of the function is positive.

12. A sequence is defined recursively below.

$$f(1) = 2$$
$$f(n) = -3f(n-1)$$

What is the 5th term of the sequence?

- A. -162
  - B. -54
  - C. 54
  - D. 162
13. The expression below describes a sequence of numbers.

$$7n$$

If  $n$  represents the position of the number in the sequence, which pattern of numbers does the expression describe?

- A. 7, 14, 21, 28, ...
  - B. 10, 11, 12, 13, ...
  - C. 17, 27, 37, 47, ...
  - D. 21, 28, 35, 42, ...
14. A sequence is defined below.

$$a_1 = 10$$

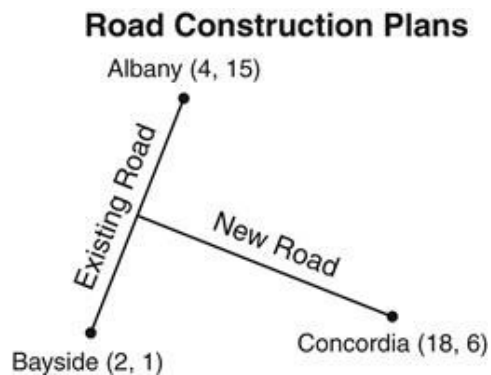
$$a_n = 3a_{n-1}$$

What is the 4th term of this sequence?

- A. 19
  - B. 34
  - C. 120
  - D. 270
15. A trapezoid has vertices at  $(-6, -3)$ ,  $(-2, 5)$ ,  $(2, 5)$ , and  $(6, -3)$ . What is the **approximate** perimeter of the trapezoid?
- A. 32 units
  - B. 34 units
  - C. 36 units
  - D. 38 units

16. Triangle  $RST$  has vertices at  $R(7, -4)$ ,  $S(12, -12)$ , and  $T(2, -12)$ . What is the **approximate** perimeter of triangle  $RST$ ?
- A. 9.4 units
  - B. 14.5 units
  - C. 18.9 units
  - D. 28.9 units
17. 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.  $cx - ay = d$
18. Which is an equation of a line perpendicular to the graph of  $x - (3y + 2) = 4$ ?
- A.  $y = -\frac{1}{3}x + 4$
  - B.  $y = -3x + 1.5$
  - C.  $y = 3x + 2$
  - D.  $y = \frac{1}{3}x + 5$
19. Which equation is parallel to a line that passes through the points  $(4, -5)$  and  $(2, 6)$ ?
- A.  $y = \frac{2}{11}x + 15$
  - B.  $y = -\frac{2}{11}x - 17$
  - C.  $y = -\frac{11}{2}x + 15$
  - D.  $y = \frac{11}{2}x + 17$

20. The local planning commission has decided to build a new road from the midpoint of a section of highway connecting Albany and Bayside to the town of Concordia. Albany and Bayside have map coordinates of (4, 15) and (2, 1) respectively.



The new road will follow a straight path directly to Concordia, which has map coordinates of (18, 6). If the map coordinates listed on the drawing are in miles, which measure is closest to the length of the new road?

- A. 14.1 miles
- B. 15.2 miles
- C. 16.7 miles
- D. 17.0 miles