

# MTH 05, Test 2, V. 1, 10/19/17

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NAME: \_\_\_\_\_

There are twenty-two questions, each worth 5 points. For multiple-choice questions, circle your answer. For free-response questions, SHOW ALL WORK to receive full credit.

1. Solve for  $t$  in the expression  $A = rt$ .

(a)  $t = 2$

(b)  $t = \frac{A}{r}$

(c)  $t = Ar$

(d)  $t = \frac{r}{A}$

2. Solve for  $t$  in the equation  $P = 2t + a$ .

(a)  $t = \frac{P - a}{2}$

(b)  $t = 2$

(c)  $a = P + 2t$

(d)  $t = 2P - a$

3. The volume  $V$  of a pyramid is given by the equation  $V = \frac{1}{3}Bh$ . If  $V = 100$  and  $h = 5$ , what is the value of  $B$ ?

(a) 60

(b) 200

(c)  $\frac{23}{2}$

(d) -53

4. What is the slope-intercept form of the equation  $6x + 4y = 12$ ?

(a)  $y = 6x + 12$

(b)  $y = -6x + 3$

(c)  $y = -\frac{3}{2}x + 3$

(d)  $y = \frac{3}{2}x + 3$

5. Use the formula  $F = \frac{9}{5}C + 32$  to find  $F$  when  $C = -20$ .

- (a) 4
- (b)  $-4$
- (c) 21
- (d)  $-112$

6. What is the slope of the line connecting the points  $(4, 13)$  and  $(6, 5)$ ?

- (a)  $-\frac{1}{4}$
- (b)  $\frac{1}{4}$
- (c)  $-4$
- (d) 4

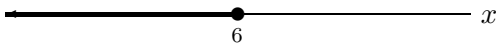
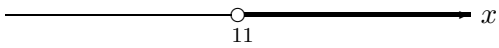
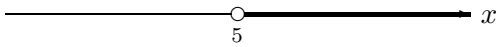
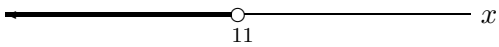
7. Find  $x$ -intercept and  $y$ -intercept for the graph of the equation  $x + 3y = 6$ .

- (a)  $x$ -intercept:  $(-6, 0)$  and  $y$ -intercept:  $(0, 2)$
- (b)  $x$ -intercept:  $(6, 0)$  and  $y$ -intercept:  $(0, -2)$
- (c)  $x$ -intercept:  $(0, 0)$  and  $y$ -intercept:  $(1, 4)$
- (d)  $x$ -intercept:  $(6, 0)$  and  $y$ -intercept:  $(0, 2)$

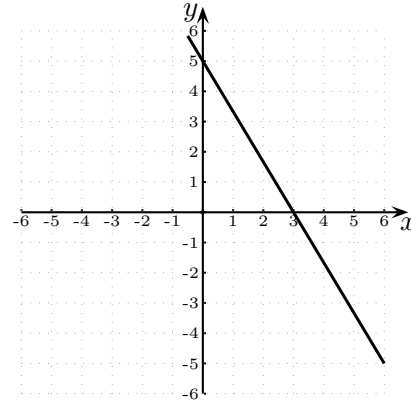
8. Find the slope and  $y$ -intercept for the graph of the equation  $2x - 5y = 15$ .

- (a) Slope =  $\frac{2}{5}$  and  $y$ -intercept:  $(0, -3)$
- (b) Slope =  $-\frac{2}{5}$  and  $y$ -intercept:  $(0, 3)$
- (c) Slope =  $\frac{2}{5}$  and  $y$ -intercept:  $(0, 15)$
- (d) Slope =  $-\frac{2}{5}$  and  $y$ -intercept:  $(0, -3)$

9. Pick the graph of the solution to the inequality  $7x - 5 > 6x + 6$ .

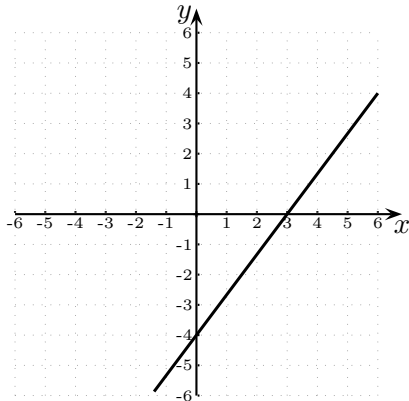
- (a) 
- (b) 
- (c) 
- (d) 

10. Choose the equation of the line in the graph.



- (a)  $5x - 3y = 15$
- (b)  $5x + 3y = 15$
- (c)  $-5x + 3y = 15$
- (d)  $3x - 5y = 15$

11. What is the slope of the line in the graph?



- (a)  $\frac{3}{4}$
- (b)  $-\frac{3}{4}$
- (c)  $\frac{4}{3}$
- (d)  $-\frac{4}{3}$

12. Find the equation of the vertical line passing through the point  $(-3, -4)$ .

- (a)  $y = -4$
- (b)  $x = -3$
- (c)  $y = \frac{3}{4}x$
- (d)  $y = \frac{4}{3}x$

**13.** Which equation's graph is parallel to that of  $y = -3x - 14$ ?

(a)  $y = 3x + 12$

(b)  $y = -3x + 8$

(c)  $y = \frac{1}{3}x + 7$

(d)  $y = -\frac{1}{3}x - 11$

**14.** Find the  $x$ -coordinate of the solution of the following system of equations.

$$\begin{cases} 2x + 3y = 2 \\ -x - 3y = 2 \end{cases}$$

(a)  $-2$

(b)  $4$

(c)  $-4$

(d)  $2$

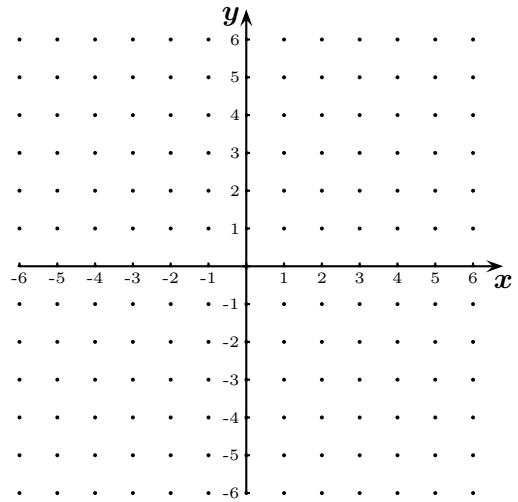
\_\_\_\_\_Free response questions start here. SHOW ALL WORK!!!\_\_\_\_\_

**15.** Solve and graph the solution on the number line:  $2 - 4(2x + 5) \geq 5(x + 3) - 2x$ .

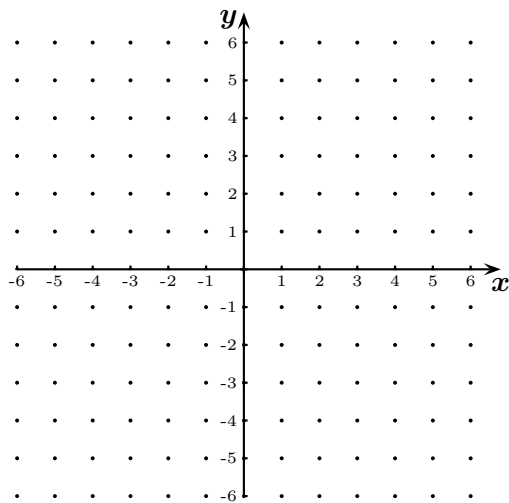
**16.** Find an equation for the line passing through the points  $(3, 8)$  and  $(-3, 6)$ .

17. Find the equation of the line passing through the point  $(3, -4)$  and perpendicular to the line  $2x + 3y = 5$ .

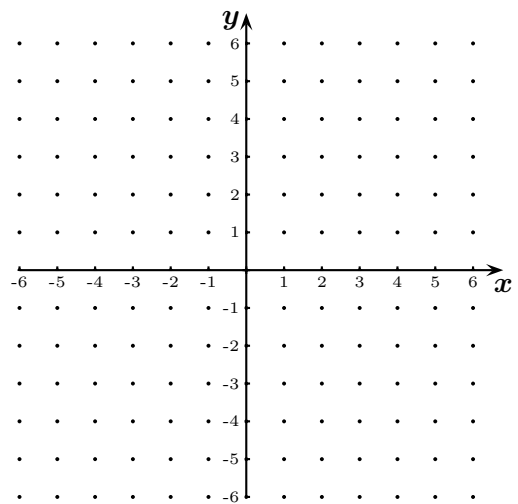
18. Graph  $y = \frac{3}{4}x - 3$  indicating at least two points.



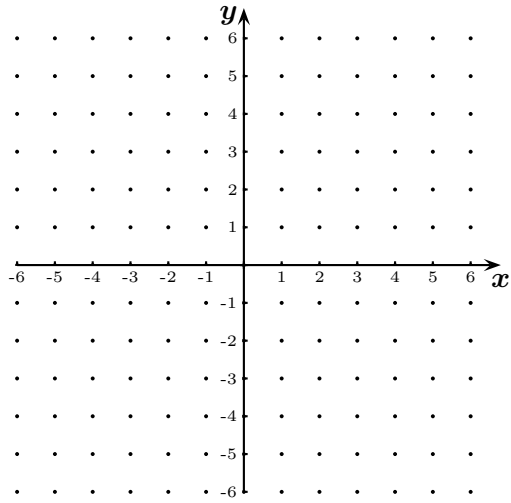
19. Graph  $3x + 5y = 15$  indicating at least two points.



20. Graph  $y = 4$  indicating at least two points.



21. Graph the solution of the inequality  $2x - y < 4$ .



22. Solve the following system of equations. If there is no unique solution, say whether the system has *no solutions* or *infinitely many solutions*.

$$\begin{cases} 3x + 5y = 1 \\ 2x + 4y = 2 \end{cases}$$