MTH 05, Test 2, V. 2, 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. What is the slope-intercept form of the equation $6x + 4y = 12$?

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

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

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

(d) $y = 6x + 12$

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

(a) 21

(b) -4

(c) -112

(d) 4

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

(a) -4

(b) $\frac{1}{4}$

(c) 4

(d) $-\frac{1}{4}$

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

(a) x-intercept: $(0, 0)$ and y-intercept: $(1, 4)$

(b) x-intercept: $(6, 0)$ and y-intercept: $(0, -2)$

(c) x-intercept: $(6, 0)$ and y-intercept: $(0, 2)$

(d) x-intercept: $(-6, 0)$ and y-intercept: $(0, 2)$

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

(a) $t = Ar$

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

(c) $t = \dfrac{r}{A}$

(d) $t = 2$

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

(a) $\dfrac{23}{2}$

(b) 200

(c) -53

(d) 60

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

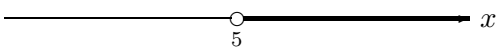
(a) $a = P + 2t$

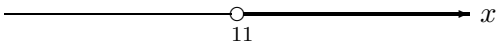
(b) $t = 2$

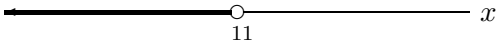
(c) $t = 2P - a$

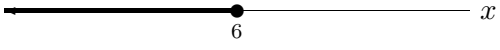
(d) $t = \dfrac{P - a}{2}$

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

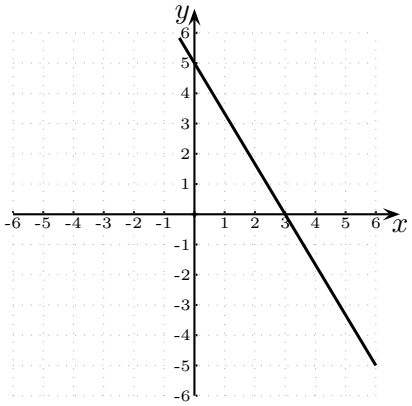
(a) 

(b) 

(c) 

(d) 

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



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

(b) $5x + 3y = 15$

(c) $3x - 5y = 15$

(d) $5x - 3y = 15$

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

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

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

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

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

11. Find the x-coordinate of the solution of the following system of equations.

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

(a) -4

(b) 4

(c) 2

(d) -2

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

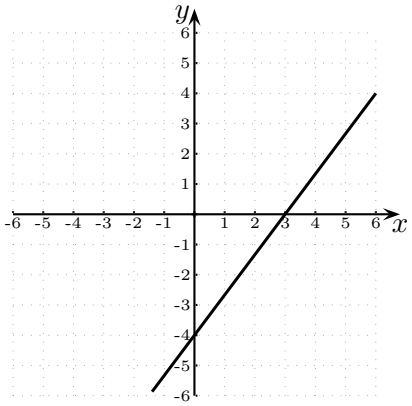
(a) $y = \frac{3}{4}x$

(b) $x = -3$

(c) $y = \frac{4}{3}x$

(d) $y = -4$

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



(a) $\frac{4}{3}$

(b) $-\frac{3}{4}$

(c) $-\frac{4}{3}$

(d) $\frac{3}{4}$

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

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

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

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

(d) $y = 3x + 12$

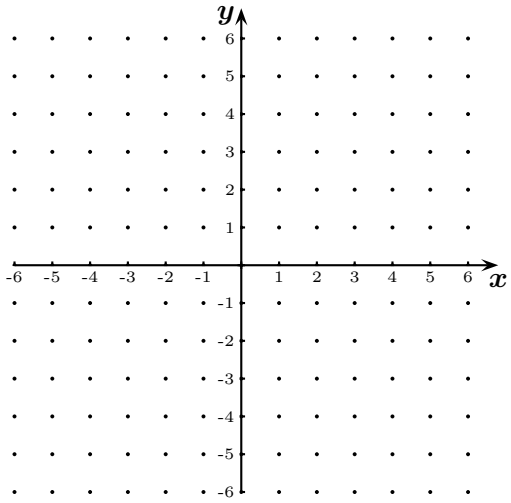
Free response questions start here. SHOW ALL WORK!!!

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

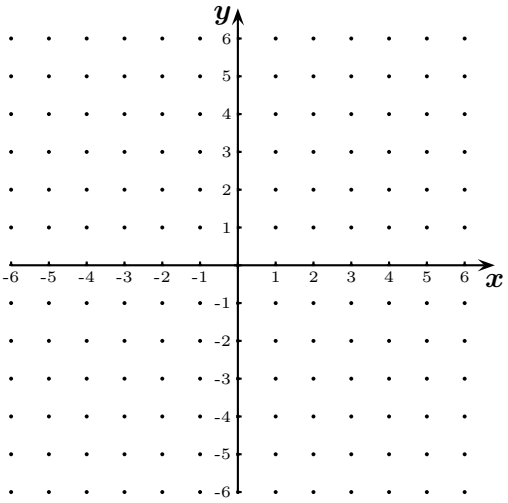
16. Solve and graph the solution on the number line: $2 - 4(2x + 5) \geq 5(x + 3) - 2x$.

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

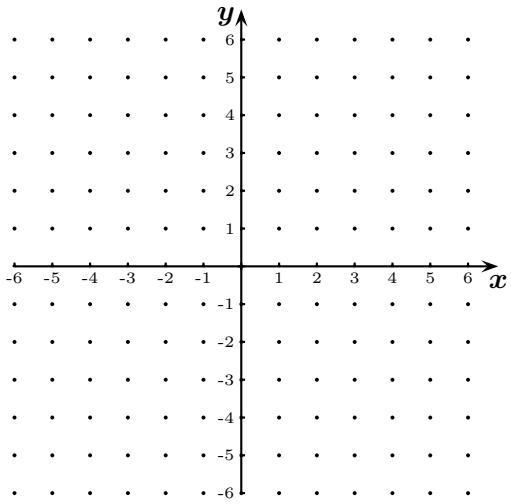
18. Graph $3x + 5y = 15$ indicating at least two points.



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



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



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

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

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