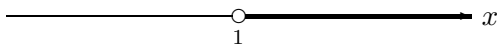
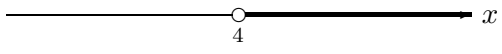
MTH 05, Test 2, V. 3b, 10/23/18 Luis Fernández

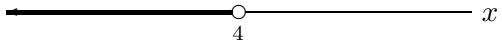
NAME:_____

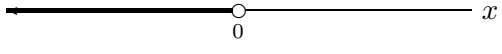
There are twenty-two questions, each worth 5 points. For multiple-choice questions, circle your answer. For free-response questions, SHOW ALL WORK to receive credit.

1. Pick the graph of the solution to the inequality $10x - 10 > 6x + 6$.

(a) 

(b) 

(c) 

(d) 

2. Find the slope and y-intercept for the graph of the equation $3x + 7y = 28$.

(a) Slope $= \frac{3}{7}$ and y-intercept: $(0, -4)$

(b) Slope $= \frac{3}{7}$ and y-intercept: $(4, 0)$

(c) Slope $= -\frac{3}{7}$ and y-intercept: $(0, 4)$

(d) Slope $= -\frac{3}{7}$ and y-intercept: $(0, 28)$

3. Find x-intercept and y-intercept for the graph of the equation $2x - 7y = 14$.

(a) x-intercept: $(-7, 0)$ and y-intercept: $(0, 2)$

(b) x-intercept: $(7, 0)$ and y-intercept: $(0, -2)$

(c) x-intercept: $(-14, 2)$ and y-intercept: $(7, 14)$

(d) x-intercept: $(0, 0)$ and y-intercept: $(2, 7)$

4. What is the slope of the line connecting the points $(4, 10)$ and $(6, 3)$?

(a) $\frac{13}{10}$

(b) 4

(c) $-\frac{7}{2}$

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

5. Use the formula $F = \frac{9}{5}C + 32$ to find F when $C = 15$.

(a) -4

(b) 37

(c) 59

(d) 81.2

6. What is the slope-intercept form of the equation $5x - 4y = 20$?

(a) $y = 5x + 24$

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

(c) $y = \frac{4}{5}x + 4$

(d) $y = \frac{5}{4}x - 5$

7. The area A of a trapezoid is given by the formula $A = \frac{B+b}{2} \cdot h$. If $A = 90$, $B = 6$, and $b = 3$, what is the value of h?

(a) 20

(b) $\frac{99}{2}$

(c) 18

(d) -53

8. Solve for t in the equation $P = \frac{t}{4} + a$.

(a) $t = 4a + P$

(b) $t = \frac{P - 4a}{2}$

(c) $t = \frac{P - a}{4}$

(d) $t = 4(P - a)$

9. Solve for t in the expression $A = rt - 3$.

(a) $t = Ar + 3$

(b) $t = \dfrac{A+3}{r}$

(c) $t = 3$

(d) $t = \dfrac{r}{A} + 3$

10. Solve: $\dfrac{3x}{7} \leq \dfrac{15}{14}$

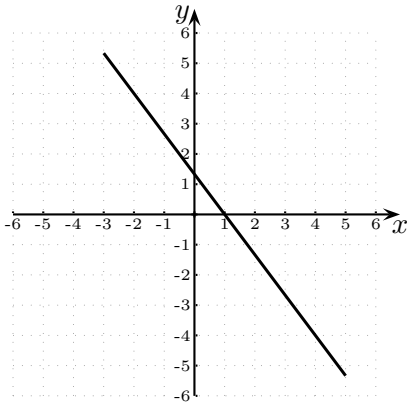
(a) $x < \dfrac{2}{5}$

(b) $x \leq \dfrac{5}{2}$

(c) $x \geq \dfrac{5}{2}$

(d) $x = 5$

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



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

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

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

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

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

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

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

(c) $y = 3x + 12$

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

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

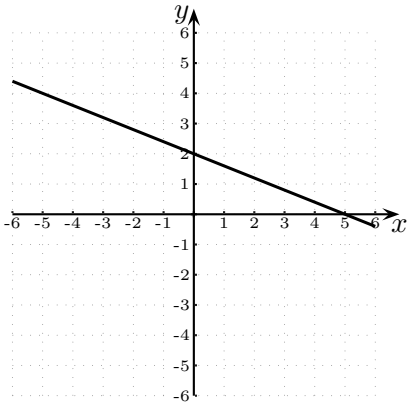
(a) $x = -3$

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

(c) $y = -4$

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

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



(a) $y = 2$

(b) $5x - y = 2$

(c) $5x - 2y = 10$

(d) $2x + 5y = 10$

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

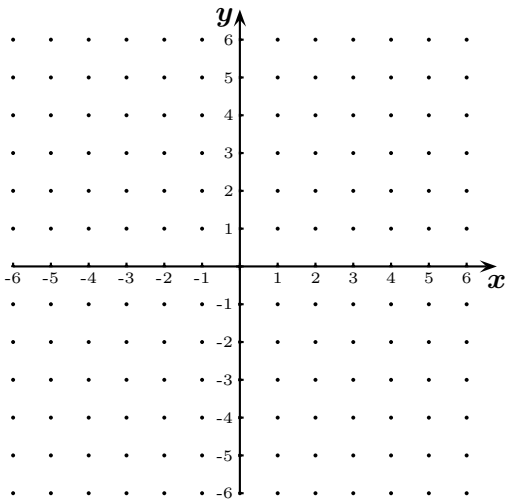
15. Solve and graph the solution on the number line: $3 - 5(2x + 5) \geq 2(x + 4) - 7x$.

16. Find the slope and y-intercept of the line with equation $2x + 5y = 15$.

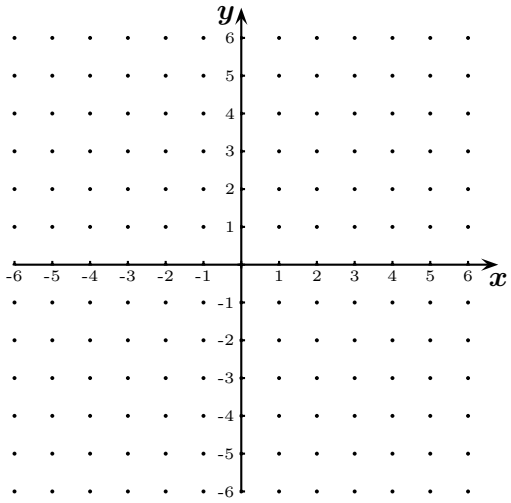
17. Find an equation for the line passing through the points $(2, 5)$ and $(-2, 7)$.

18. Find the equation of the line passing through the point $(5, -2)$ and perpendicular to the line $-2x + 5y = 1$.

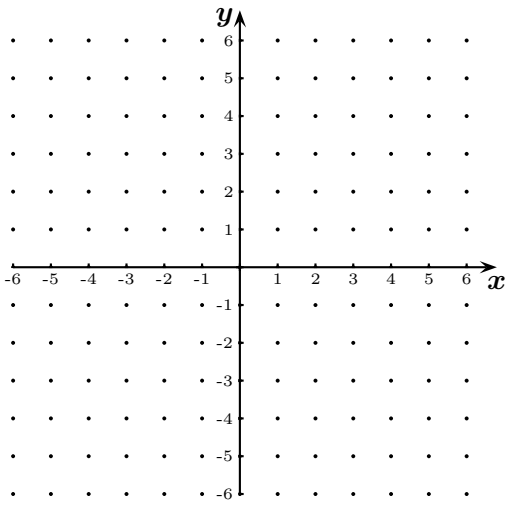
19. Graph $y = -\frac{3}{5}x + 2$ indicating at least two points.



20. Graph $5x - 3y = 15$ indicating at least two points.



21. Graph the equation $x = 3$ indicating at least two points.



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

$$\begin{cases} 3x + 2y = 10 \\ 5x - 3y = 4 \end{cases}$$