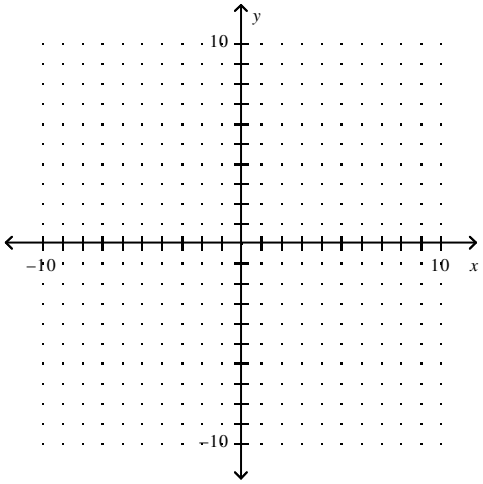
Chapter 2 – Practice Test

No calculator will be allowed on this portion of the test.

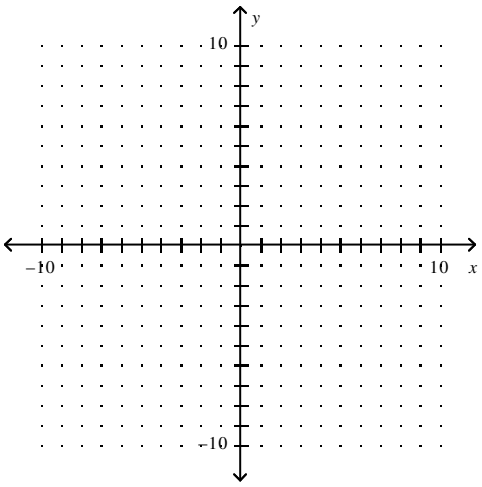
1. Graph the line: $y = -\frac{2}{3}x + 4$

Clearly plot at least 2 points that lie on the line.



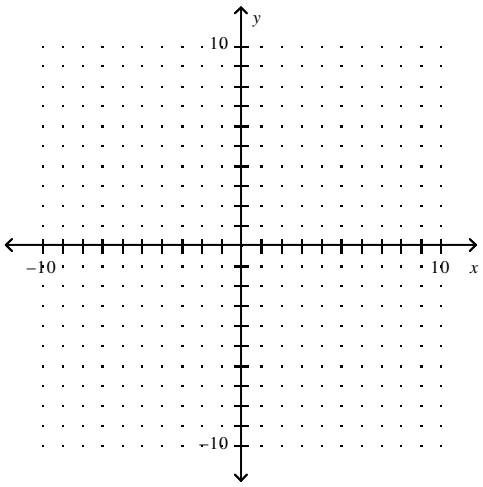
2. Graph the line: $-3x + 4y = 24$

Clearly plot at least 2 points that lie on the line.



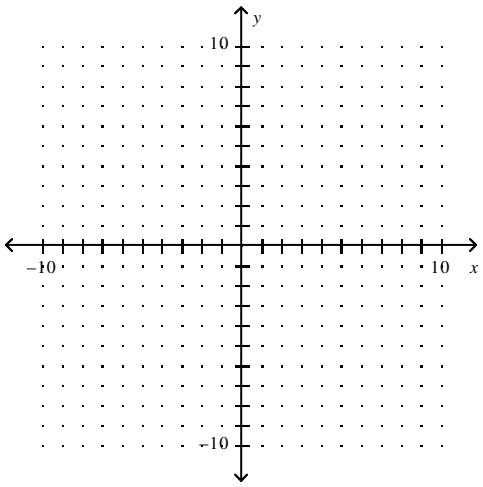
3. Graph the inequality: $y \geq -3x + 5$

Clearly plot at least 2 points that lie on the boundary line.

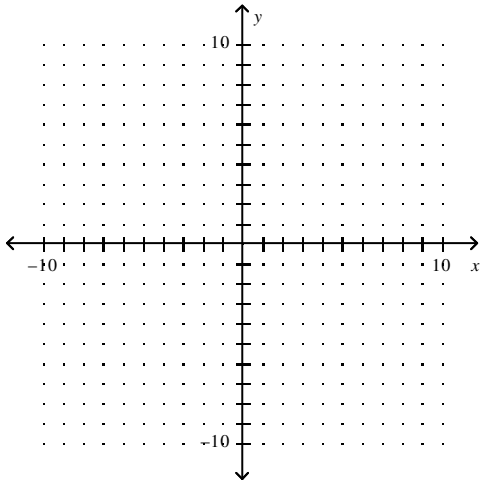


4. Graph the inequality: $2x - 3y < 18$

Clearly plot at least 2 points that lie on the boundary line.



5. Graph the parent graph $y = |x|$ and the graph of $y = -2|x - 3| + 4$. ***Clearly*** plot the vertex and at least ***two other points for each graph.***



You may use a calculator on the rest of this test.
Show your work on every problem!

6. Find the slope of the line passing through the points (-8 , 8) and (1 , -2).

7. Write an equation of a line that has slope 8 and y-intercept -1.

8. Write the equation of the line, in slope-intercept form, that passes through the point (-5 , -6) and has slope 2.

9. Find the slope-intercept equation of the line passing through the points (2 , 1) and (-43 , 19).

10. Tell whether **Line 1** and **Line 2** are *parallel*, *perpendicular*, or *neither*. Explain/show work.

Line 1 passes through (4 , -6) and (6 , -2).

Line 2 passes through (7 , -8) and (11 , -6).

11. Determine whether the relation is a function. Explain why or why not.
(22, 14), (10, 14), (22, 15), (13, 16), (14, 16)

12. Which equation has the steeper graph, $y = \frac{1}{5}x - 2$ or $y = \frac{3}{8}x + 3$? Explain.

13. Consider the equation y = -5x + 5.

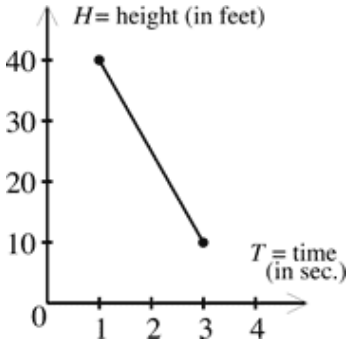
a. Write an equation that passes through the point (6 , -1) and is ***parallel*** to the given equation.

b. Write an equation that passes through the point (6 , -1) and is ***perpendicular*** to the given equation.

14. Is the ordered pair (5 , -1) a solution of the inequality $3x - 4y \geq 20$? Explain.

15. The pet store has dog bones that sell for $3.75 a pound and pig ears that sell for $2.50 a pound. Write an equation that represents how much of each type of dog treat can be bought with $42.

16. What is the domain and what is the range of the function in the graph?



Domain:_____ Range:_____

17. The amount of money in Amy's college fund can be modeled by the equation y = 5000 + 1500x where x = her age in years.

a. What is the slope of the line for this equation? ***Describe*** what the slope represents.

b. What is the y-intercept of the line for this equation? ***Describe*** what the y-intercept represents.

18. The table shows the population *p* (in millions) of Florida over a four year span.

Year	2000	2001	2002	2003
Population (in millions)	15.6	16.0	16.3	16.6

a. Approximate the best –fitting line for the data.

b. Using this model, what will be the population in 2010?

19. ***Given f(x) = -5x - 9. Evaluate:***

a. f(5) b. *f(-6)* c. *f(0)*

f(5) = _____ *f(-6)* = _____ *f(0)* = _____

20. Find the slope and y-intercept of the graph of $4x + 3y = 24$.

21. The amount a spring will stretch, S, varies directly with the force (or weight), F, attached to the spring. If a spring stretches 3 inches with 35 pounds attached, how far will it stretch with 85 pounds attached?

22. The variables x and y vary directly and $y = -20$ when $x = \frac{1}{4}$. Write an equation that relates the variables.

23. For the scatter plot shown, state whether x and y have a *positive correlation*, a *negative correlation*, or *no correlation*.