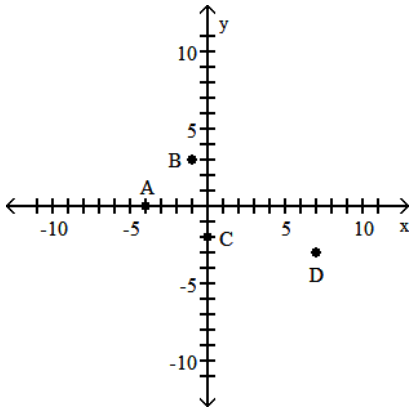
Math 1500: Section 1.1

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) Give the coordinates of points A, B, C, and D shown below.



MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

2) Determine which of the following points lie on the graph of the linear equation $4x + 5y = 20$.
   A) (0, 0)
   B) (5, 4)
   C) (0, -4)
   D) (-5, 8)
   E) (-4, 20)

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3) On the line $2y = 6$, is there a point whose first coordinate is 4? If so, name the point.

4) Find the standard form of the linear equation $4x - 7y = 14$.

5) Find the y-intercept of the line $2y - x = 6$.

6) Find the x-intercept of the line $y = 8x - 12$.

7) Find the x-intercept and y-intercept for the line $y = 5x$.

8) Find the x-intercept and y-intercept for the line $y = -2x + 6$.

9) Find the x-intercept and y-intercept for the line $y = 2$.

10) Find the x-intercept and y-intercept for the line $x = -3$.

Sketch the graph of the linear equation. Label the coordinates of the y-intercept and the x-intercept.

11) $5x - 10y = 20$

Solve the problem.

12) A towing company charges a fixed amount in addition to a per-mile charge to tow a car. The total charge y in dollars is related to the towing distance x in miles by the equation $y = 30 + 2x$.
   (a) Sketch the graph of this equation for $0 \le x \le 25$.
   (b) What is the charge of towing a car for 15 miles?
   (c) If the company charged a customer $50 to tow his car, what was the corresponding towing distance?

13) The value y of a machine (in dollars) is known to depreciate linearly with time x (measured in years from the time it was bought new). Suppose that y is related to x by the equation $y = 2000 - 200x$.
   (a) Sketch the graph of this linear equation for $0 \le x \le 10$.
   (b) What is the value of the machine when it is 5 years old?
   (c) What is the economic interpretation of the y-intercept of the graph?
   (d) When will the value of the machine reach the scrap value of $400?