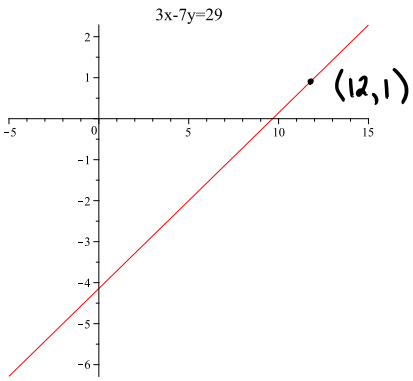
Question 1. Consider the equation along with its graph below. Choose **all** statements that apply.



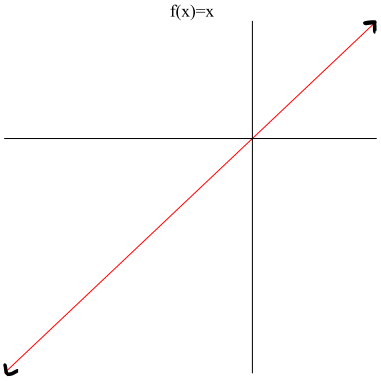
(a) I see no obvious integer values that satisfy the equation.

(b) To find integers that satisfy the equation, it is necessary to put the equation into the form $y = mx+b$.

(c) Obvious integer values that satisfy the equation $3x - 7y = 29$ are _____(fill in blank).

(d) For any solution, it must be true that $x > 0$.

Question 2. Consider the function $f(x) = x$ along with its graph. Choose the ONE sentence that best describes the graph.



(a) This function is always increasing.

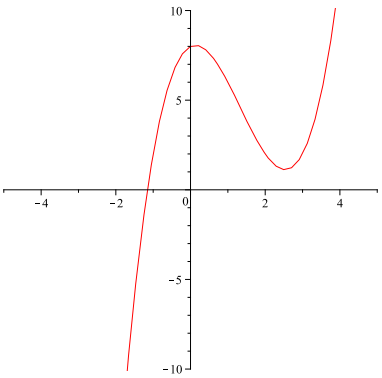
(b) This function is always decreasing.

(c) This function has both an interval on which it is increasing and an interval on which it is decrasing.

(d) This function is constant.

Question 3. Suppose you are given the graph of the function $y = f(x)$ and you are told that $f(3) = 7$. Is there a particular point you know must be on the graph? If so, what is it?

Question 4. Consider the graph of the function $f(x)$ below. Which ONE of the following statements is true?



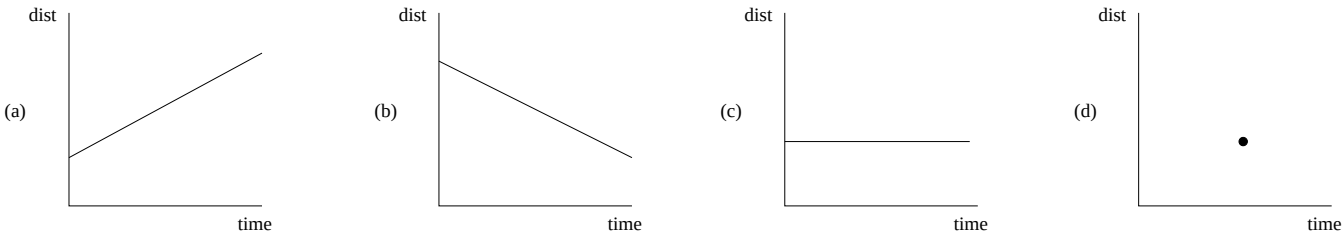
(a) The equation $f(x) = 5$ has no solutions.

(b) The equation $f(x) = 5$ has exactly one solution.

(c) The equation $f(x) = 5$ has at least three solutions.

(d) Nothing about the solutions of $f(x) = 5$ can be determined from the graph.

Question 5. Choose the graph that best matches the verbal statement: "Chris stood stock still in front of a statue for a long time." (Note: dist on the vertical axis stands for **distance from the statue**.)

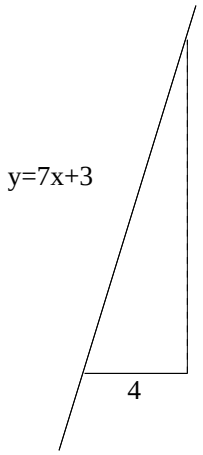


Question 6. Let $N = f(t)$ be the number of cans of soda Penelope has consumed by age t, where t is measured in years. Describe what the following mean in practical terms. Be sure to include units.

(a) $f(15) = 350$

(b) $f^{-1}(50) = 6$

Question 7. Consider the following graph of the line $y = 7x + 3$. Given that the horizontal segment indicated has length 4, consider the dotted vertical segment. Indicate which of the following statements is true about the dotted line.



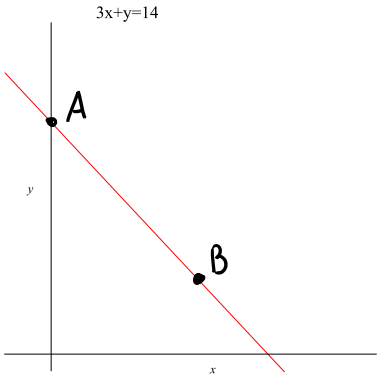
(a) The length of this line cannot be determined from the information given.

(b) The length of this line is 7.

(c) The length of this line is 28.

(d) The length of this line is 31.

Question 8. Consider the graph below.



(a) Can you determine the coordinates of the point A? If so, what are they? If not, explain why not.

(b) Can you determine the coordinates of the point B? If so, what are they? If not, explain why not.