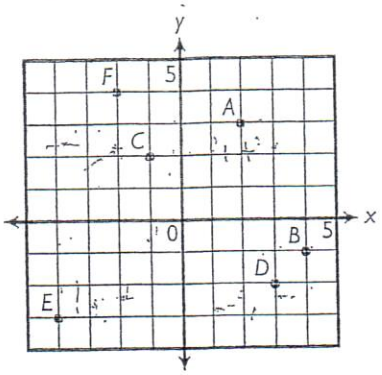
# Homework 5 Seeing Things Graphically

## Applying Skills

1. For each point shown on the coordinate plane, give its coordinates and tell which quadrant it lies in.




2. Plot each point on a coordinate plane.

   a. $(3, 4)$ b. $(2, -1)$ c. $(-3, 1)$

   d. $(-2, -4)$ e. $(3, 0)$ f. $(0, -1)$

Tell whether each statement is true or false. Explain your thinking.

3. The $x$-coordinate of the point $(-1, 3)$ is $-1$.

4. The point $(-1, 4)$ lies in the fourth quadrant.

5. The point $(-3, -8)$ lies in the third quadrant.

6. Any point whose $y$-coordinate is positive lies above the $x$-axis.

7. Any point whose $x$-coordinate is negative lies below the $x$-axis.

8. Any point that has a $y$-coordinate of 0 lies on the $y$-axis.

9. Any point whose $x$-coordinate is positive lies in the first quadrant.

## Extending Concepts

10. a. Make a table of values that satisfy the equation $y = x + 3$.

    b. Write the pairs of numbers from your table as ordered pairs.

    c. Plot the points on a coordinate grid. Does it make sense to draw a line through the points?

    d. Do you think that if you extended your line, the point (100, 103) would lie on the line? Why or why not?

    e. If a point lies on the line, what can you say about its coordinates?

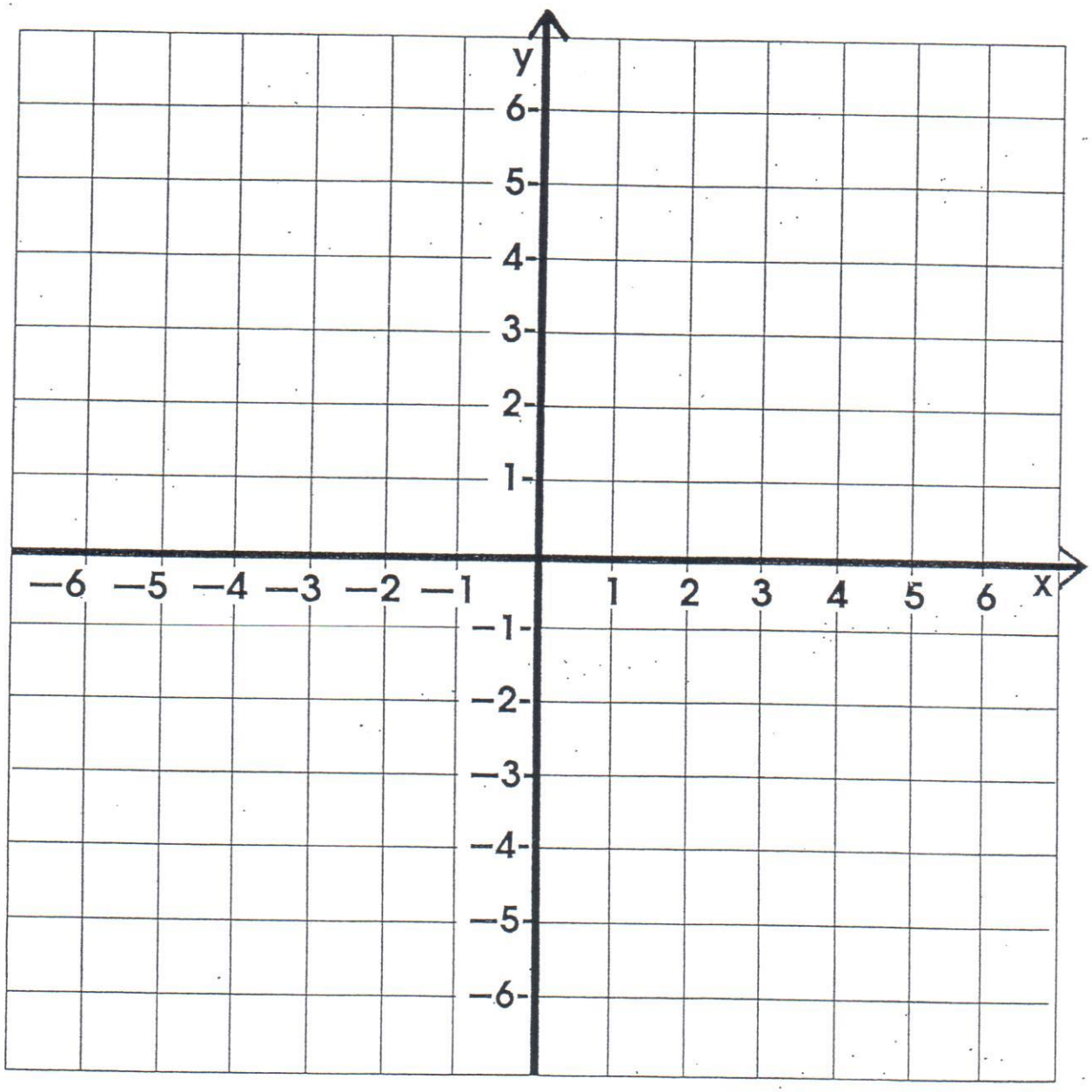
## Writing

11. Answer the letter to Dr. Math.

Dear Dr. Math,

My teacher asked for the coordinates of two points that lie on the x-axis. I figured that all points on the x-axis must have an x-coordinate of 0. So I wrote (0, 4) and (0, 98). My friend, Lou, said that I got it wrong. He said that points on the x-axis actually have y-coordinate of 0. That sounds pretty silly to me. If Lou is right, why would they call it the x-axis? Who is right?

Muriel


y
6
5
4
3
2
1
−6 −5 −4 −3 −2 −1
1 2 3 4 5 6
x
−1
−2
−3
−4
−5
−6