

Introductory Lab

1. Slope 3 (1 point)

Refer to lab page 2. Plot the points $P1=(1,3)$ and $P2=(3,-1)$. Report the value of the slope m .

- a. -2 b. -1 c. 0 d. 1 e. 2 f. 3

2. Slope (1 point)

Refer to lab page 2. Suppose $P1$ is a point in Q II and $P2$ is a point in Q IV. What can you conclude about the value of m ?

- a. m has to be positive
b. m has to be negative
c. m could be positive or negative

3. Horizontal line (1 point)

Refer to lab page 2. What happens to the value of m when $P1$ and $P2$ have different x coordinates but the same y coordinate? (You can drag the points with your mouse to experiment.)

- a. The slope is 0
b. The slope is 1
c. The slope is undefined

4. Linear function quiz 4 (1 point)

Refer to lab page 3. Pick $f(x)$ number 4 and enter a linear function that matches it. What is the magic word?

- a. thin b. ring c. long d. cash e. wish

5. Linear function quiz 5 (1 point)

Refer to lab page 3. Pick $f(x)$ number 5 and enter a linear function that matches it. What is the magic word?

- a. thin b. ring c. long d. cash e. wish

6. Control (1 point)

Refer to lab page 3. Notice the control to the left of the grapher that looks like this:



What effect does it have on the graph that is displayed?

- a. It shifts the x coordinates of the graph up or down
b. It shifts the x coordinates of the graph left or right
c. It shifts the y coordinates of the graph up or down
d. It shifts the y coordinates of the graph left or right
e. It changes the scale of both axes, and zooms in or out.

7. Symmetry (1 point)

$$f(x) = \frac{4x^2}{x^2 + 1}$$

Refer to the graphing utility on lab page 4. Graph $f(x) = \frac{4x^2}{x^2 + 1}$ and report on its symmetry. (Observe the symmetry both on the grapher and in the table.)

- a. The graph is symmetric with respect to the x axis
- b. The graph is symmetric with respect to the y axis
- c. The graph is symmetric with respect to the origin

8. Function values 2 (1 point)

Refer to lab page 4. Suppose $f(x) = (x^3 - 1)/5$. Use the table part of the utility to find the value reported for $f(\pi/2)$.

9. Bug (2 points)

Refer to lab page 4. Set $f(x) = 1/x$ and choose the automatic x entries option for the table. There is a bug in the parser that makes one of the table entries in error. Study the graph and the table to find the mistake, and write a sentence or two below describing the error.