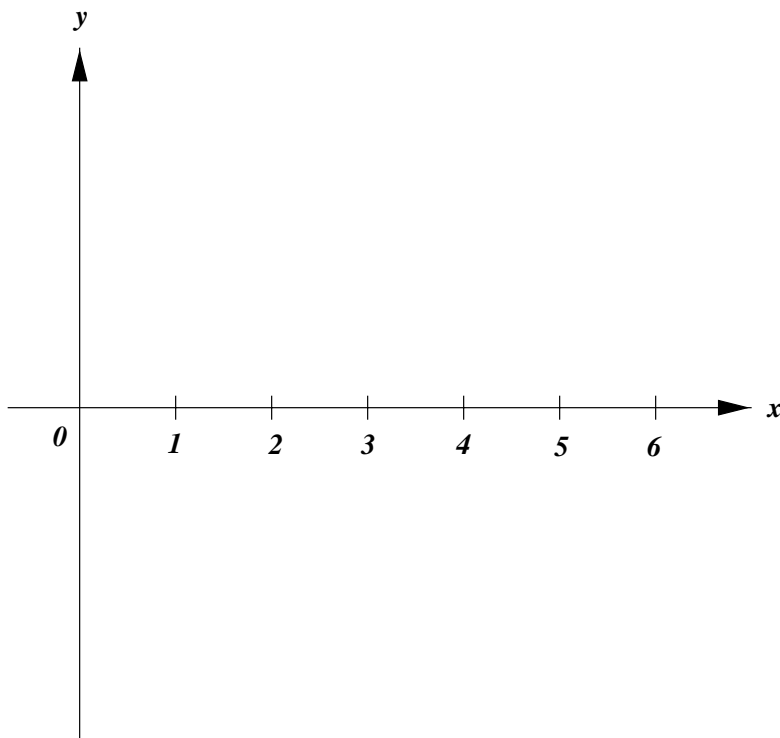
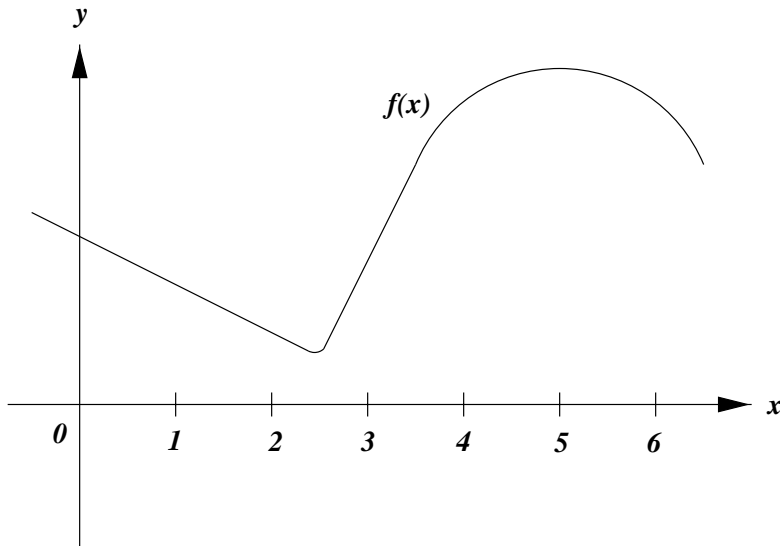


Name \_\_\_\_\_

You are allowed to work with others on this quiz, but should turn in your own write-up of the solutions.

1. (4 points) Suppose that  $f(x)$  is a function whose graph is shown below. Using the coordinate axes below this graph, sketch the graph of  $f'(x)$ .



2. (4 points) For one package mailing company, the cost to send a package is a function of its weight. Let  $C(w)$  represent the cost, in dollars, of sending a package which weighs  $w$  pounds.

(a) Interpret the statements  $C(12) = 5$  and  $C'(12) = 0.4$  in terms of packages, weights, and costs. Your final answer should be in the form of one or more English sentences which can be easily understood by a person who knows very little math. You should especially avoid calculus terms such as derivative, rate of change, function, slope, tangent line, etc.

(b) Use the information given in part (a) to estimate the cost of sending a 14 pound package.

(c) Use the information given in part (a) to estimate the cost of sending an 11 pound package.

3. (2 points) Suppose that  $g(t)$  is a function with  $g(3) = 20$  and  $g'(3) = -2.5$ .

(a) Estimate  $g(5)$ .

(b) Estimate  $g(0)$ .

(c) Estimate  $g(3.9)$ .

(d) Estimate  $g(2.8)$ .

4. (0 points) Which of the estimates in problem 3, should you feel most confident in?

5. (0 points) Which of the estimates in problem 3, should you feel least confident in?