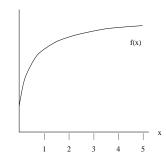
1. Draw a possible graph of f(x) given the following information.

- f(-1) = 2
- f'(-1) = 0
- f'(x) > 0 for x < -1
- f'(x) < 0 for x > -1

2. For each of the following pairs of numbers, use the figure below to decide which is bigger.

- (a) f(3) or f(4)?
- (b) f(4) f(3) or f(2) f(1)?
- (c) $\frac{f(2)-f(1)}{2-1}$ or $\frac{f(1)-f(0)}{1-0}$?
- (d) f'(1) or f'(4)?



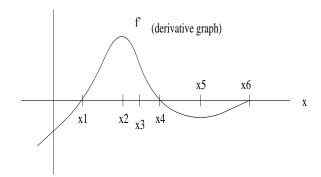
3. The figure below is the graph of f', the derivative of a function f. On what interval(s) is the **function** f

(a) Increasing?

(b) Decreasing?

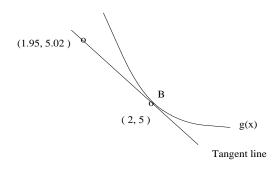
(c) Concave up?

(d) Concave down?



4. Fill in the blanks in the following statements about the function g at the point B.

(b)
$$g'(\underline{\hspace{1cm}}) = \underline{\hspace{1cm}}$$



- 5. A child inflates a balloon, admires it for a while and then lets the air out at a constant rate. If V(t) gives the volume of the balloon at time t in seconds, then the figure below shows V'(t) as a function of t. At what time does the child:
 - (a) Begin to inflate the balloon?
 - (b) Finish inflating the balloon?
 - (c) Begin to let the air out?
 - (d) What would the graph of V'(t) look like if the child had alternated between pinching and releasing the open end of the balloon, instead of letting the air out at a constant rate?

