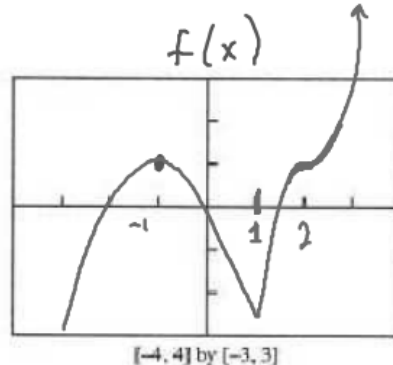
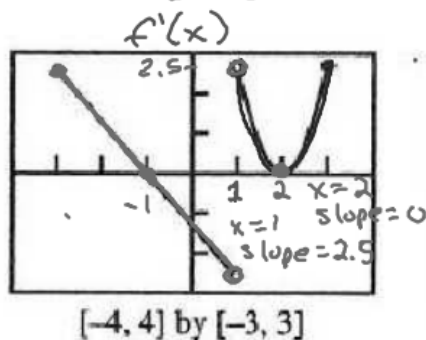


f' is pos
- & inc

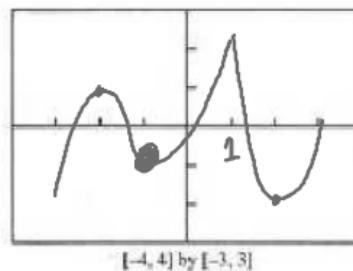
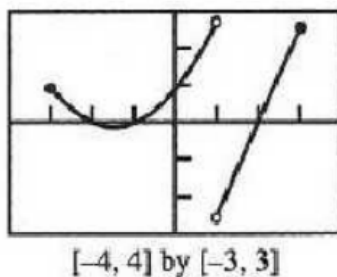
8. Sketch a possible graph of a continuous function f that has domain $[-3, 3]$, where $f(-1) = 1$ and the graph of $y = f'(x)$ is shown below.



$x=1$ is not differentiable

- cusp
- corner
- vertical tangent

9. Sketch a possible graph of a continuous function f that has domain $[-3, 3]$, where $f(-1) = -1$ and the graph of $y = f'(x)$ is shown below.

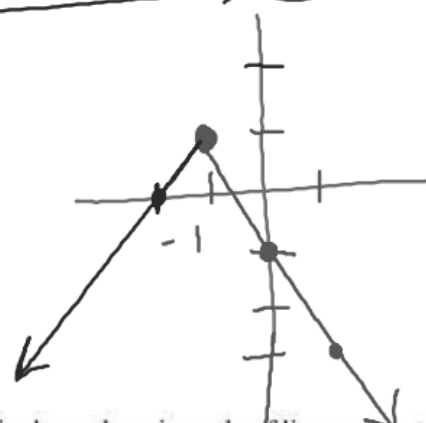
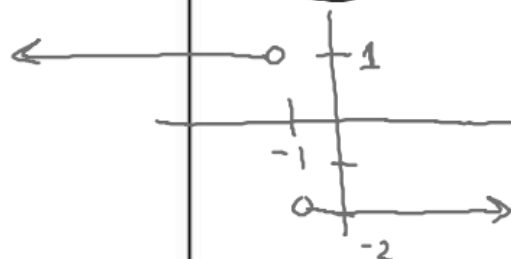


p. 107 #27 Sketch the graph of a continuous function f with $f(0) = -1$ and

$$f'(x) = \begin{cases} 1, & x < -1 \\ -2, & x > -1 \end{cases}$$

$$f'(x)$$

$$f(x) = \begin{cases} 1x + 2 \\ -2x + (-1) \end{cases}$$



The graph of the function $f(x)$ is shown here is made of line segments joined at each end.

Graph $f'(x)$

slope $x = -1$ to $x = 1$

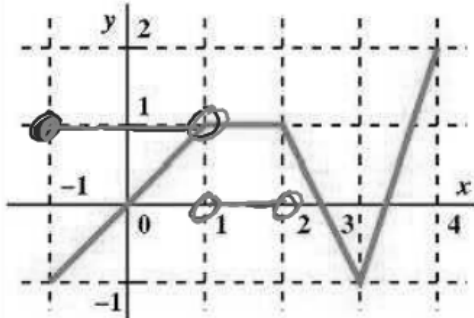
$$\frac{dy}{dx} = 1$$

$x = 1$ to $x = 2$

$$\frac{dy}{dx} = 0$$

$x = 2$ to $x = 3$

$$\frac{dy}{dx} = -2$$



a. Graph the functions derivative.

b. At what values of x between $x = -1$ and $x = 4$ is the function not differentiable?

$$x = 1, 2, 3$$