

pg 187 Answers to 3.2 Assign.

1.  $f'(1) = 2$        $f'(5) = -2$   
 $f'(3) = 0$        $f'(6) = -1$

2.  $f'(4) < f'(0) < f'(2) < 0 < f'(8)$

3. a) Slope of the tangent line

b)  $m = 3$

c)  $f'(2) = 3$

4.  $m = \frac{3}{2}$        $y = \frac{3}{2}x + \frac{1}{2}$

5. skip

6. skip

7.  $y = 5x - 16$

8.  $y = -4x - 5$

28.  $f(x) = \cos x$

35. a) \$/ft

b)  $f'(x)$  is price/  
additional foot

35. c)  $f'(x)$  remains positive

d)  $f'(300) = 1000$

40. Ans. Vary

41.  $+\infty$

43.  $f'(1) = 2$

28.  $\lim_{h \rightarrow 0} \frac{\cos(x+h) + 1}{h}$

$$f(x) = \cos x$$

$$f(a) = 1$$

## MORE LIMIT PROCESS

$$10. f'(-1) = 2$$

$$y = 2x + 3$$

$$14. f'(4) = \frac{1}{3}$$

$$y = \frac{1}{3}x + \frac{5}{3}$$

$$17. f'(x) = 2x - 1$$

$$\lim_{\Delta x \rightarrow 0} (2x - 1 + \Delta x)$$

$$21. f'(t) = 8t + 1$$

$$\lim_{h \rightarrow 0} (8t + 4h + 1)$$

$$22. \frac{dV}{dr} = 4\pi r^2$$

$$\lim_{h \rightarrow 0} \frac{4\pi}{3} (3r^2 + 3rh + h^2)$$