

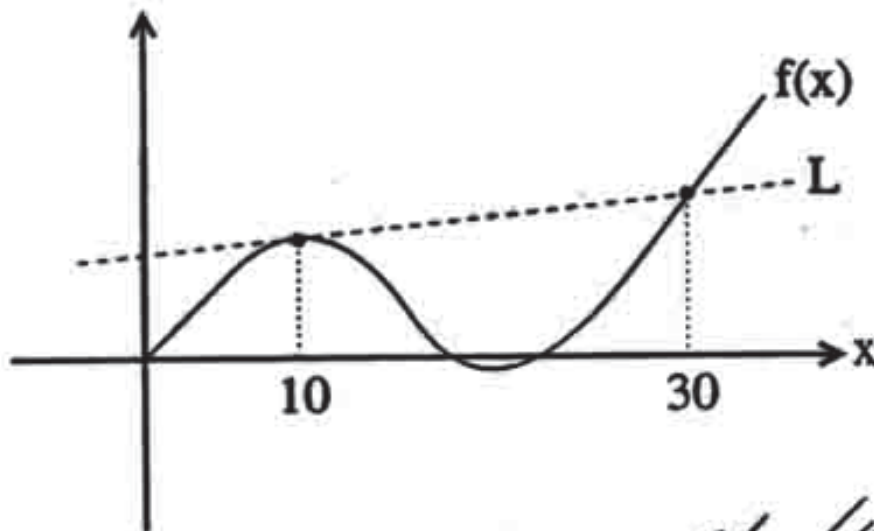
3. (3 pts.) Let $g(x) = \ln(x^2 + 3)$. What is the average rate of change in g over the interval from -1 to 3 ?

Avg Rate of Chn betw $x=3$ & $x=-1$

$$= \frac{g(3) - g(-1)}{3 - (-1)} = \frac{\ln(12) - \ln(4)}{4}$$

$\approx .27465$

4. (4 pts.) Shown below is a part of the graph of the function f together with a part of the graph of the tangent line L to f at the point $x = 10$. Suppose that $f(10) = 8$ and $f'(10) = 0.12$. Calculate $f(30)$.



pt $(10, 8)$
 $m = 0.12$

$$8 = 0.12(10) + b$$

$$b = 6.8$$

$$f(30) = 0.12(30) + 6.8$$

$$= 10.4$$

$f(30) = \underline{10.4}$