

(9) slope of  $y = \frac{1}{x^2} = x^{-2}$

$$\frac{dy}{dx} = -2x^{-3} = \frac{-2}{x^3} = \frac{-2}{27}$$

$R(k, 0)$

$$y - \frac{1}{9} = -\frac{2}{27}(x - 3)$$

$$0 - \frac{1}{9} = -\frac{2}{27}(k - 3) \rightarrow k = \dots$$

(59)  $\ln 1.07$

Build a tangent line at  
 $x = 1$

$y = \ln x$

$y(1) = 0$

$y'(x) = \frac{1}{x}$       $y'(1) = 1$

$y - 0 = 1(x - 1)$       $y = x - 1$

$y = 1.07 - 1 = 0.07$

