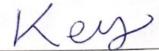
Calculus II. Quiz 0. Name



Time

Show all work on this page for full and/or partial credit. Use a calculator to find the decimal answer, rounded to two decimal places. Angles are always in radians for Calculus. Put a box around both answers!

For each problem, find f(1) and f'(1).

Example:  $f(x) = 3\sin 2x$ 

$$f(1) = 3\sin(2\cdot 1) = 2.73$$

$$f'(x) = 6\cos 2x$$

$$f(1) = 3\sin(2\cdot 1) = 2.73$$
  $f'(x) = 6\cos 2x$   $f'(1) = 6\cos(2\cdot 1) = -2.5$  O

 $1. \quad f(x) = \sin^2(\pi x)$ 

$$f(1) = \sin^2 \pi = 0$$
  $f'(x) = \left[ 2\sin(\pi x)\cos(\pi x)\pi \right] f'(1) = 0$ 

2.  $f(x) = \ln 3x + -x^2$ 

$$f(1) = \ln 3 + -1$$

$$= 0.098 \approx 0.1$$

$$f(1) = \ln 3 + -1$$
  $f'(x) = \frac{1}{3x}(3) - 2x$   $f'(1) = \frac{1}{1} - 2$   
=  $(0.098) \approx [0.1]$   $= \frac{1}{x} - 2x$ 

$$f'(1) = \frac{1}{1} - 2$$

 $3. \quad f(x) = (\ln 3)x$ 

 $4. \quad f(x) = 2^{x^3}$ 

$$f'(x) = \left[2^{x^3}(\ln 2)(3x^2)\right] f'(1) = 2(\ln 2)3$$

$$f'(1) = 2(\ln 2)3$$
  
=  $\frac{1}{4.16}$ 

5.  $f(x) = (2^x)^3 = 2^{3x} = 8^x$ 

$$f(1) = (2')^3 = 8$$

$$f(1) = (2')^3 = [8]$$
  $f''(x) = [3(2^x)^2 2^x | n2]$   $f'(1) = 3 \cdot 2^2 \cdot 2 | n2$   
=  $3(|n2|) 2^{3x}$  =  $[16.64]$ 

$$f'(1) = 3 \cdot 2^2 \cdot 2 \ln 2$$
  
=  $16.64$