CALCULUS 1210-002
Quiz 2

INSTRUCTIONS

Show Your Work; No Calculators. No Phones and other Electronic Equipment. Box your answers. No multiple answers.

1. Find the derivative of $y$:

(a) $y = x^3 + 2x^2 + 3$

(b) $y = \frac{2}{x^2} + x^4$

(c) $y = 3x^\frac{3}{2} + \frac{1}{x^2}$

2. Using the product rule find the derivative of $y$:

(a) $y = (x^2 - 1)(x^4 + 1)$

(b) $y = (x^2 + x + 1)(\frac{1}{x} + 2)$
3. Find the derivative of $y$:

(a) $y = \frac{x+1}{x-1}$

(b) $y = \frac{1}{3x^2+1}$

(c) $y = \frac{\sqrt{x}}{\sqrt{x+1}}$

4. Use the definition

$$f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$$

to find the derivative at $x$ of the function $f(x) = \frac{1}{x+3}$.