

## Test Review

Part I - Find the following limits:

$$1) \lim_{x \rightarrow 4} 2$$

$$2) \lim_{x \rightarrow 5} \frac{x^2 - 25}{x - 5}$$

$$3) \lim_{x \rightarrow \infty} \frac{2x^3 + 7x - 10}{4x^3 + 2}$$

Part II - Give the slope of the tangent line using definition of derivative

$$4) f(x) = x^2 + 3x$$

Part III - Give the slope of the tangent line (derivative) using any technique

$$5) y = 4x^5 + 7x^6 - 3x + 2$$

$$6) f(x) = (3x^2 + 7x)^3$$

$$7) y = \frac{x^4 - 3x^2}{5x}$$

$$8) f(x) = \cos^3 x$$

$$9) y = (\sin x)(14x^4)$$

$$10) f(x) = \tan^5(4x^3)$$

$$11) y = \frac{\cos^2(3x)}{4x^5}$$