Derivative Review

$$\frac{d}{dx}\left(x - x^5\right)$$

$$\frac{d}{dx}\left[(x^2-1)(2-x)\right]$$

$$\frac{d}{dx}\left[\left(3x^2 - 8x\right)\left(x^2 + 2\right)\right]$$

$$\frac{d}{dx}\left[\left(x^2 + x + 1\right)\left(x + 1\right)\right]$$

$$\frac{d}{dx}\left(x^3 - x\right)^2$$

$$\frac{d}{dx}\left(\frac{6}{3-x}\right)$$

$$\frac{d}{dx}\left(\frac{x^4+4x+4}{1-x^2}\right)$$

$$\frac{d}{dx}\left[\left(\frac{(2x+1)(3x+2)}{(x+1)(x-1)}\right)\right]$$

$$\frac{d}{dx}\left(5x^{-2} - 2x^{-5}\right)$$

$$\frac{d}{dx}\left(\frac{x^2-4}{x+2}\right)$$

$$\frac{d}{dx}\left[(x-2)\left(x+\frac{1}{x}\right)\right]$$

$$\frac{d}{dx}\left(\frac{x}{x^2+x+1}\right)$$

$$\frac{d}{dx}\left[\left(x^5 + x^{-2}\right)\left(x^3 - x^{-7}\right)\right]$$

Determine the equation of the tangent line

$$f(x) = \frac{x-1}{x+1} \qquad \text{at the point } (1,0)$$

Determine the equation of the tangent line

$$f(x) = (x^2 + x)(1 - x^2) \quad \text{at the point } (2, -18)$$