

MTH 2201 Test #1

SPRING 2016

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Name _____

Instructions

Show **CLEARLY** how you arrive at your answers!

1. $f(x) = 3x^4 + 4x^2 - 5x + 6 - \sqrt{x}$. Compute $f'(x)$

2. $f(x) = 4x^2 + 6x + 6$ Compute the slope of the line tangent to the graph of $f(x)$ at the point $(-2, 10)$.

3. Compute: $\frac{d}{dx} [(x^2 + 2x + 1)(3x^4 - 7x^2)]$ using the Product Rule

4. $f(x) = (8x^5 + 3x^2 + 2)^{15}$ Compute: $f'(x)$

5. Compute: $\frac{d}{dx} \left[\left(\frac{8x^3+4x}{10x^3+10} \right) \right]$ using the Quotient Rule

6. Compute: $\frac{d}{dx} \left[(20x^5 + 25x^2)^3 (50x^2 + 20)^4 \right] =$

7. Compute: $\frac{d}{dx} \left[\left(\frac{20x^5+25x^2}{50x^2+20} \right)^5 \right] =$