

MTH 1125 12pm Class - Test #4

FALL 2021

Pat Rossi

Name _____

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

1. **Compute:** $\int (12x^3 + 9x^2 - 6x + 6\sqrt{x} + 4) dx =$

2. **Compute:** $\int (6x^2 + 16x + 5)^9 (3x + 4) dx =$

3. **Compute:** $\int (4 \sin (x) - 5 \csc ^2 (x) + 6 \csc (x) \cot (x)) dx =$

4. **Compute:** $\int \cos (4x^2 + 6x + 3) (4x + 3) dx =$

5. **Compute:** $\int_{-1}^1 (6x^2 + 6x + 2) dx =$

6. **Compute:** $\int_0^1 (x^4 + 1)^4 x^3 dx =$ (The answer may not be a whole number)

7. **Compute:** $\frac{d}{dx} [\ln(2x^4 + 4x^2 - 8)] =$

Extra! (Wow! - 5 pts. Can you believe it?) **Compute:** $\int \frac{2x+1}{6x^2+6x+15} dx =$

Extra! (Wow! - 5 pts. Can you believe it?) **Compute:** $\frac{d}{dx} \left[\ln \left(\sqrt{\frac{8x^4 - 3x^2 + 2}{5x^3 - 5x}} \right) \right] =$