

MTH 1125 Test #4

SUMMER 2021

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Name _____

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

1. **Compute:** $\int (5x^4 + 8x^3 + 9x^2 + 4x + 6 + 6\sqrt{x}) dx =$

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

3. **Compute:** $\int_1^2 (4x^3 - 6x^2 + 4x) dx =$

4. **Compute:** $\frac{d}{dx} [\ln(4x^2 + 8x + 5)] =$

5. **Compute:** $\frac{d}{dx} \left[\ln \left[\sqrt{\left(\frac{x^2+x}{x+2} \right)} \right] \right] =$

6. **Compute:** $\int \frac{4x^2+2x}{4x^3+3x^2+5} dx =$

7. **Compute:** $\int \cos(3x^2 + 5) x dx =$

8. **Compute:** $\int (5x^2 + 5x + 3)^4 (2x + 1) dx =$

9. **Compute:** $\int_0^1 (x^2 + 1)^3 x dx =$ (The answer may not be a whole number)