MTH 1126 - Test #1 - 9 am Class

Spring 2024

Pat Rossi Name _____

Show CLEARLY how you arrive at your answers

1. Compute: $\frac{d}{dx}\left[e^{\sin\left(6x^2\right)}\right] =$

2. Compute: $\frac{d}{dx}\left[\ln\left(\sqrt{\frac{2x^3+3x^2}{\tan(x)}}\right)\right] =$

3. Compute: $\int e^{\left(5x^4+4x^3\right)}\left(5x^3+3x^2\right)\,dx =$

4. Compute: $\int \frac{3x^5+4x^3}{(3x^6+6x^4)^4}\,dx =$

5. Compute: $\int \frac{x^5+x+1}{(x^6+3x^2+6x)}\,dx =$

6. Compute: $\frac{d}{dx}\left[\arctan\left(\sin\left(x\right)\right)\right] =$

7. Compute: $\int \frac{1}{x\sqrt{9x^2-4}}\,dx =$

8. Compute: $\frac{d}{dx}\left[\cos^{-1}\left(e^x\right)\right] =$

9. Compute: $\int \frac{x}{5+16x^4}\,dx =$

10. $z = \sec(\arcsin(2x))$ Re-write this equation as an equivalent algebraic equation.

Extra: Wow! 10 points (All or nothing)

Compute: $\int \frac{1}{\sqrt{e^{2x}-9}}\,dx =$