

Math 134
Background Quiz

Instructions: This is a closed book quiz; no notes or calculators allowed. Answer as many as you can.

1. $\frac{d}{dx}(x^2 + 2)^3 =$

2. $\frac{d}{dx}(e^{x^2}) =$

3. $\frac{d}{dx}(\sin(2x)) =$

4. $\frac{d}{dx}(\ln(x)) =$

5. $\int_0^1 x^3 dx =$

6. $\int_{-1}^1 e^x dx =$

7. $\int (x^2 + 1)^3 2x dx =$

8. $\int x \sin(x^2) dx =$

9. $\int \sin^2(x) \cos(x) dx =$

10. State the Fundamental Theorem of Calculus. (There are two versions of the theorem. If you know both, state both of them. Otherwise, state whichever one you know.)