Quiz
September 28, 2016

Instructions: This is a closed book quiz; no notes or calculators allowed. Please turn off all cell phones, pagers, etc. Answer as many of these as you can.

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

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

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

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

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

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

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

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

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

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.)