

Quiz 7 (10 points)

The following quiz is due Thursday, March 12, 2015 at the beginning of your drill. You may use your brain, notes, book, other humans and any pet of your choice. **Your solutions must be on a separate sheet of paper, in order, stapled, de-fringed, and legible with your name on the top right corner on the first page.** If you **fail to meet any of these requirements** you **WILL RECEIVE A ZERO**. Each question is worth one point and is all or nothing.

Differentiate

1. $f(x) = \ln\left(\frac{x-1}{x+1}\right)$

2. $f(x) = (2x^3 - 3x + 12) \cdot 4^x$

3. $f(x) = \cos(3^x)$

4. $f(x) = \left(1 + \frac{1}{x}\right)^{2x}$

5. $f(x) = \sin^{-1}(e^{\sin x})$

6. $f(x) = \sin(\arcsin(2w^4))$

7. $f(x) = \cot^{-1}\left(\frac{1}{x^2 + 1}\right)$

8. $f(x) = \frac{1}{\arctan(x^2 + 16)}$

9. $f(x) = \frac{(x+1)^{2/3}(x-4)^{5/2}}{(5x+3)^{2/3}}$

10. $\frac{d^{100}}{dx^{100}}(2^x)$