MA 126 — Fall 2016 — Prof. Clontz — Quiz

Name: Solutions

1. Evaluate $\cosh(\ln 2)$.

$$= \frac{e^{\ln 2} + e^{-\ln 2}}{2} = \frac{2 + \frac{1}{2}}{2} = \frac{5/2}{2} = \frac{5}{4}$$

   A. $\frac{3}{5}$
   B. $\frac{2}{3}$
   C. $\frac{5}{4}$
   D. None of these.

2. Differentiate $f(x) = \tanh(x^2) - \cosh(2x+1)$.

   A. $f'(x) = -\operatorname{sech}(x^2)\tanh(x^2) + \sinh(2x+1) + 2$
   B. $f'(x) = 2x\operatorname{sech}^2(x^2) - 2\sinh(2x+1)$
   C. $f'(x) = \frac{1}{1+x^4} + 2\sinh(2x+1)$
   D. None of these.

$$f'(x) = \operatorname{sech}^2(x^2)(2x) - \sinh(2x+1)(2)$$

$$= 2x\operatorname{sech}^2(x^2) - 2\sinh(2x+1)$$