

MATH-1150 (DUPRÉ) SPRING 2011 QUIZ 2 ANSWERS

Wednesday 8 February 2012

DIRECTIONS

FIRST: PRINT YOUR LAST NAME IN LARGE CAPITAL LETTERS ON THE UPPER RIGHT CORNER OF EACH SHEET TURNED IN.

SECOND: PRINT YOUR FIRST NAME IN CAPITAL LETTERS DIRECTLY UNDERNEATH YOUR LAST NAME ON EACH SHEET TURNED IN.

THIRD: WRITE YOUR CORRECT SPRING 2011 MATH-1150 SECTION NUMBER DIRECTLY UNDERNEATH YOU FIRST NAME ON EACH SHEET TURNED IN.

FOURTH: Write NEATLY and CLEARLY, putting your answers in the space provided. If I cannot read it you do not get credit.

FIFTH: Any failure to follow any part of any of the above directions can result in additional loss of credit.

1. If $f(x) = e^x$, then $f'(x) = e^x$

2. If $g(s) = \sqrt{4 - s^2}$, then $g'(s) = \frac{1}{2}[4 - s^2]^{-1/2} \cdot (-2s) = \frac{-s}{\sqrt{4 - s^2}}$

3. If $h(u) = e^{u^3 - 4u + 7}$, then $h'(u) = [e^{u^3 - 4u + 7}] \cdot [3u^2 - 4]$

4. If $\zeta(z) = \ln(z^2 + 3z + 2)$, then $\zeta'(z) = \frac{1}{z^2 + 3z + 2} \cdot [2z + 3] = \frac{2z + 3}{z^2 + 3z + 2}$

5. If $f(x) = \frac{xe^x}{\ln x}$, then $f'(x) = \frac{[1 \cdot e^x + xe^x][\ln x] - xe^x \cdot [1/x]}{[\ln x]^2} = e^x \cdot \left[\frac{[x + 1] \ln x - 1}{[\ln x]^2} \right]$
or $f'(x) = e^x \cdot \left[\frac{x + 1}{\ln x} - \frac{1}{[\ln x]^2} \right]$