Name:_____.

MATH 115 - SEC 011, WINTER 2011. QUIZ 6
TIME LIMIT: 25 MINUTES

INSTRUCTOR: GERARDO HERNÁNDEZ

Good luck!

Problem 1. Differentiate the following functions. If you need more space, use the last page for your computations.

(a) $y = \sqrt{z}\, e^{-z}$

(b) $y = \left(\frac{x^2+2}{ln(x)}\right)^2$

(c) $f(x) = 2x\, tan(cos(x))$

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(d) $r(\theta) = arctan(\theta)\ \sqrt{cos(3\theta)}$

(e) $f(x) = e^{-2x}\ sin(x)$

(f) $G(x) = \frac{sin^2(x)-1}{cos^2(x)+1}$

(g) $g(t) = cos(ln(t))$

(h) $T(u) = arctan\left(\frac{u}{1+u}\right)$

Problem 2.

- For $x > 0$, find and simplify the derivative of $f(x) = arctan(x) + arctan(1/x)$

- What does the result tell you about f?