Name: _____

Math 1300-005 - Spring 2017

Quiz 6 - 2/23/16

On my honor, as a University of Colorado at Boulder student, I have neither given nor received unauthorized assistance on this work.

Signature: _____

Guidelines: You are permitted to use notes, the book, in-class worksheets/solutions, and your classmates on this quiz. Computers and graphing technology of any kind, including calculators, are not allowed (exceptions made for those who have an e-book). Please show all work and clearly denote your answer.

1. Compute the following derivatives.

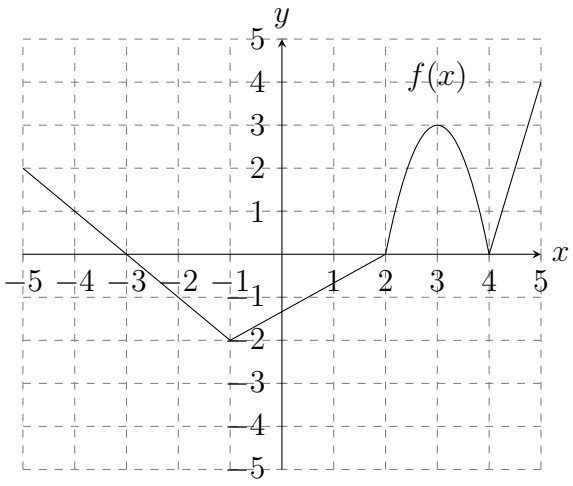
   (a) $F(x) = \left(4^{x^2}\right)\left(\tan(9x)\right)$

   (b) $G(x) = \sqrt{\dfrac{e^x}{x^2 - 2x + 3}}$

   (c) $H(x) = \sin(\cos(x^3 + 3))$

2. Consider the piecewise function f graphed below. Also consider the table of values for g and its derivative g'.

x	$g(x)$	$g'(x)$
1	3	-5
2	1	3
3	-2	-2



(a) If $J(x) = g(x)/f(x)$, find $J'(3)$.

(b) If $L(x) = f(x)g(x)$, find $L'(1)$.

(c) If $K(x) = f(g(x))$, find $K'(2)$.

(d) If $D(x) = g(f(x))$, find $D'(-4)$.

(e) **(*Half Point Bonus*)** If $R(x) = f(g(f(x)))$, find $R'(3)$.