Math 1300-005 - Spring 2017
Quiz 8 - 3/10/17

> *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. Simplify the following. In each case, you must draw a right triangle, label it appropriately, and then use the picture to simplify the expression.

   (a) $\csc(\arccos(x))$

   (b) $\cot(\arcsin(x))$

2. Compute the following limit.
$$\lim_{x \to -\infty} \arctan\left(\frac{1 + x^3}{2x + x^2}\right)$$

3. Find an equation of the tangent line to the curve $y = 3\arccos(x/2)$ at $x = 1$.

4. Find the derivative of
$$g(x) = x\arcsin\left(\frac{x}{4}\right) + \sqrt{16 - x^2}.$$