MATH 112
Quiz 1
Spring 2023

Name _____

Student ID #_____   Section _____

HONOR STATEMENT

"I affirm that my work upholds the highest standards of honesty and academic integrity at the University of Washington, and that I have neither given nor received any unauthorized assistance on this exam."

SIGNATURE:_____

- This quiz consists of one page of questions (on the back of this sheet).

- You will have 25 minutes from the moment the TAs tell you to start.

- You are allowed to use a non-graphing scientific calculator, a ruler, and one 8.5 by 11 inch sheet of handwritten notes (front and back). All other sources are forbidden.

- Turn your cell phone OFF and put it away for the duration of the test prep. You may not listen to headphones or earbuds during the quiz.

- **You must show your work.** Clearly show your work. The correct answer with no supporting work may result in no credit.

- Unless otherwise indicated, when rounding is necessary, you may round your final answer to two digits after the decimal.

- **Do not write within 1 centimeter of the edge!** Your test prep will be scanned for grading.

- There are multiple versions of the quiz, you have signed an honor statement, and cheating is a hassle for everyone involved. If we find that you give an answer that is only appropriate for the other version of the quiz and there is no work to support your answer, then you will get a zero on the entire test prep and your work will be submitted to the academic misconduct board. JUST DO NOT CHEAT.

GOOD LUCK!

1. (10 points) Show your intermediate work in finding your derivatives wherever possible. You do not have to simplify your derivatives.

   (a) If $f(x) = \dfrac{15x^4}{2} - 4x + \sqrt{x^2 + 3}$, what is $f'(1)$? (*i.e.* find the derivative, then plug in $x = 1$)

   $f'(1) =$ _____

   (b) If $g(x) = \left(3 - \dfrac{8}{x^2}\right)(2x + 6 - x^3)$, what is $g'(2)$?

   $g'(2) =$ _____

   (c) Find the equation for the tangent line to $y = \dfrac{3x^2 - 4x + 5}{2 - 4x}$ at $x = 0$.
   (Your final answer should look like $y = mx + b$).

   Equation for tangent line: _____