

Math 131 - Quiz 3

September 29, 2021

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due October 6.

1. (6 points) Find the derivative of each function. Do not simplify.

(a) $g(x) = 4x^5 - 17x^2 + 9x - 8$

(b) $f(t) = t^{2/3} \cos t$

(c) $y = \frac{x^2 + 4x}{\tan x}$

(d) $r = \theta + \frac{1}{\theta} + \frac{1}{\theta^2}$

Turn over.

2. (2 points) Find an equation of the line tangent to the graph of $y = x^2 + x + \sqrt{x}$ at the point where $x = 1$. Write your final answer in slope-intercept form.

3. (2 points) Sketch the graph of a continuous function that is not differentiable at $x = -2$ and $x = 3$.