

Math 131 - Quiz 7

October 18, 2023

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due October 23.

1. (4 points) Let $f(x) = x^5 + 7x - 9$.

(a) Compute $f^{-1}(-1)$.

(b) Compute $(f^{-1})'(-1)$.

(c) Compute $f^{-1}(11)$. (You'll probably have to use a calculator to approximate the value.)

(d) Compute $(f^{-1})'(11)$.

Turn over.

2. (3 points) Compute the slope of the line tangent to the graph of $y = x \sin^{-1}(2x)$ at the point where $x = 1/4$. Write your answer in exact form, simplified as much as possible.

3. (3 points) Determine each derivative.

(a) $\frac{d}{dx} \tan^{-1}(x^2 + \pi)$

(b) $\frac{d}{dx} (\cos^{-1} x)^2$