

Math 131 - Quiz 6(IC)

March 2, 2022

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Evaluate each derivative.

(a) $\frac{d}{dt} \sqrt[3]{5t^2 + 7t}$

(b) $\frac{d}{dx} [x^6 \cos(x^2)]$

2. (2 points) Find an equation of the line tangent to the graph of $y = (x^2 + 1)^{-3}$ at the point where $x = 1$.

Math 131 - Quiz 6(TH)

March 2, 2022

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This take-home portion of the quiz is due March 7.

1. (1 point) Find an equation of the line tangent to the graph of $y = \left(3x + \frac{1}{x}\right)^2$ at the point where $x = 1$.

2. (1 point) Determine $f'(x)$ if $f(x) = \tan^3(x^2 + \pi)$.

Turn over.

3. (1 point) Determine $\frac{d^2y}{dx^2}$ if $y = \cos(x^2)$.

4. (2 points) Find an equation of the line tangent to the graph of the equation

$$xy^2 + \sin(\pi y) - 2x^2 = 10$$

at the point $(2, -3)$.