

# Math 131 - Quiz 8

October 26, 2023

Name \_\_\_\_\_

Score \_\_\_\_\_

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

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1. (5 points) Determine the derivative of each function.

(a)  $y = xe^{x^2}$

(b)  $f(x) = \ln(x^3 \sin^2 x)$

2. (2 points) Find the exact value of each.

(a)  $\arcsin(1/2)$

(b)  $\log_3(3^9)$

3. (3 points) Use logarithmic differentiation to find  $dy/dx$  when  $y = x^{\sqrt{x}}$ .