

Name \_\_\_\_\_

- No calculators allowed.
- Show sufficient work to justify each answer.
- You have 15 minutes for this quiz.

1. (4 points) Find the slope of the line tangent to the graph of the ellipse

$$\frac{x^2}{25} + \frac{y^2}{3} = 1$$

at the point  $(\frac{5}{2}, \frac{3}{2})$ .

2. (2 points) Compute  $g'(t)$  given that  $g(t) = \sin^{-1}(5t)$ .

3. (4 points) Compute  $\frac{dy}{dx}$  given that  $\ln(x^2y^3) = x^3 + y^5$ .