

Math 1300
Fall 2025
Quiz 7

Name: _____

1. (5 points) Find the equation of the tangent line to $y^2 + x^3 = xe^{3y}$ at $(1, 0)$.

2. (5 points) A right circular conical tank has height 6 m and top radius 3 m. Water is being pumped in so that the water depth h is rising at a constant rate of 0.25 m/min. How fast is the volume of water in the tank increasing at the instant when the water depth is $h = 4$ m?

Volume formula for a cone: $V_{\text{cone}} = \frac{1}{3}\pi r^2 h$.

