

QUIZ 1

Name _____

1. Let $\frac{dy}{dx} = 6x^2 - e^x + 2$ where $y = -5$ when $x = 0$. Find the specific y that satisfies these two conditions.

2. Ice is forming on a pond at a rate given by $\frac{dy}{dt} = 5\sqrt{t}$ where y is the thickness of the ice in inches t hours after the ice starts to form. Find y as a function of t . (Hint: How thick is the ice at time $t = 0$ hours?)

3. Find the derivative of $\frac{d}{dt} \int_t^\pi \cos(z^3) dz$