

Name: _____

Math 231 Quiz 6

1. (10 pts) Find the function f that satisfies

$$f''(t) = \sin t, \quad f(0) = 0, \quad f'(0) = 1.$$

2. (10 pts) Evaluate the integral by interpreting it in terms of area.

$$(a) \int_{-1}^1 |2x| dx$$

$$(b) \int_{-3}^3 \sqrt{9 - x^2} dx$$

Bonus. (5 pts) Find the function f that satisfies

$$f'''(t) = 0, \quad f(0) = 0, \quad f(1) = 1, \quad f(2) = 0.$$