

Name: _____

Complete the problems for 20 points. The scores will be recorded as Quiz11 and Quiz12 (10 pts each). Return the quiz by Wed Dec 5th, **in class or by email**.

1. (3 points) Evaluate

$$\int \frac{3x^3 - 2x^2 + 5}{x^2} dx$$

2. (3 points) Find $v(t)$ if $a(t) = 3t^2 + 1$ and $v(1) = 0$.

3. (4 points) Find the average of the function $f(t) = t \sin(t^2)$ over the interval $[0, \sqrt{\pi}]$.

4. (4 points) Compute

$$\int_0^1 \frac{4x^3}{\sqrt[3]{x^4 + 1}} dx$$

5. (6 points) Find the area of the region enclosed by the graphs of the equations $y = -x - 1$ and $y = -x^2 + x + 2$.