

Name: _____

Clear your desk of everything excepts pens, pencils and erasers. If you have a question raise your hand and I will come to you.

1. (2 points) **Fill-in-the-Blank. No work needed. No partial credit available.** The indefinite integral

$$\int y^2 \sqrt{1 + y^3} dy$$

is _____.

2. (1 point) **Fill-in-the-Blank. No work needed. No partial credit available.** The definite integral

$$\int_{-1}^1 \left(\frac{\sin x}{x^2} + x^2 \right) dx$$

is _____.

Extra Work Space.

3. (2 points) What is the average value of the function $f(x) = \sin(x) \cos(x)$ over the interval $[0, \frac{\pi}{2}]$?