

Math 181
Fall, 2008

Name _____

Homework #7
Due Monday, September 29
No late papers accepted! No excuses!

1. Evaluate the following integrals.

a) $\int \frac{y}{\sqrt{16-y^2}} dy$

$$\text{b) } \int \frac{(x+1)}{(x^2+2x)^{\frac{2}{3}}} dx$$

c) $\int \tan^3 x dx$

$$d) \int \frac{\cos(\arcsin x)}{\sqrt{1-x^2}} dx$$

$$\text{e) } \int \frac{\sqrt{1-x^2}}{x^2} dx$$

f) $\int e^x \sqrt{\tan^2 e^x + 1} dx$

2. The region in the first quadrant that is enclosed by the x-axis and the curve $y = 3x\sqrt{1-x}$ is revolved about the y-axis to generate a solid. Find the volume of the solid.

3. Find the length of the curve $y = \ln(1 - x^2)$ $0 \leq x \leq \frac{1}{2}$.