

Math 180  
Winter, 2009

Name \_\_\_\_\_

Homework #17  
Due Thursday, February 5  
No late paper accepted! No excuses!

1. Evaluate the integral.
  - a)  $\int \arcsin x dx$

b)  $\int \cos(\ln x) dx$

c)  $\int e^{-x} \cos(2x) dx$

d)  $\int \cos x \cos^5(\sin x) dx$

$$e) \int_1^3 \frac{(\ln(v+1))^2}{v+1} dv$$

$$1. f) \int \frac{dy}{y\sqrt{4y^2-1}}$$

2. Find the area between the curve  $y = \frac{2 \ln x}{x}$  and the x-axis from  $x = 1$  to  $x = e$ .

2. Find the area of the regions enclosed by  $x + y^2 = 3$  and  $4x + y^2 = 0$ .

3. Find the area of the region bounded by

$$x = 3 - y^2$$

$$x = y + 1$$

4. Solve the initial value problem.

$$\frac{dy}{dx} = x\sqrt{1+x^2}$$

$$y(1) = -2$$