

Name: \_\_\_\_\_

1. 
$$\int_{-1}^1 (x^3 + 1) dx =$$

2. 
$$\int_0^\pi \cos(x) dx =$$

3. Find the area under the graph of  $y = e^x$  between  $x = 0$  and  $x = 1$ .4. Find the derivative of the function  $F(x) = \int_1^x \frac{\cos(t+2)}{t^3+1} dt$ .5. Find the derivative of the function  $y = \int_1^{x^2+1} \frac{\cos(t+2)}{t^3+1} dt$ .

Name: \_\_\_\_\_

1. 
$$\int_0^2 (x^2 + x) dx =$$

2. 
$$\int_0^{\pi/4} \sec^2(x) dx =$$

3. Find the area under the graph of  $y = \frac{1}{x}$  between  $x = 1$  and  $x = e$ .4. Find the derivative of the function  $F(x) = \int_1^x \frac{1 + e^t}{\sqrt{t + 4}} dt$ .5. Find the derivative of the function  $y = \int_1^{x^2+x} \frac{1 + e^t}{\sqrt{t + 4}} dt$ .

Name: \_\_\_\_\_

1.  $\int_{-1}^1 (x^2 + 1) dx =$

2.  $\int_0^1 \sqrt{x} dx =$

3. Find the area under the graph of  $y = \sin(x)$  between  $x = 0$  and  $x = \pi$ .

4. Find the derivative of the function  $F(x) = \int_1^x \frac{\sqrt{t+4}}{1+\cos(t)} dt$ .

5. Find the derivative of the function  $y = \int_1^{\sin(x)} \frac{\sqrt{t+4}}{1+\cos(t)} dt$ .

Name: \_\_\_\_\_

1.  $\int_1^2 (x^2 + 1) dx =$

2.  $\int_0^\pi \sin(x) dx =$

3. Find the area under the graph of  $y = x^2$  between  $x = 0$  and  $x = 2$ .4. Find the derivative of the function  $F(x) = \int_1^x \frac{1 + \cos(t)}{\sqrt{t+4}} dt$ .5. Find the derivative of the function  $y = \int_1^{x^2+x} \frac{1 + \cos(t)}{\sqrt{t+4}} dt$ .