

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

## Area of a Region between Two Curves

1) Find the total area between the region and the x-axis.

1)  $y = \cos x, -\pi \leq x \leq 2\pi$

2)  $y = 3x^2 - 3, -3 \leq x \leq 2$

3)  $y = 2 - x^2, 0 \leq x \leq 2$

2) Find the areas of the region enclosed by the lines and curves.

1)  $y = \sqrt{x}, y = 0$  and  $x = 4$

2)  $y = x^2 - 2x$  and  $y = x$

3)  $y = x^2 - 2, y = 2$

4)  $y = x^2 - 2x + 1, y = 5 - 2x$

3) Find the area under the curve  $y = x^2 + 2$  between the interval  $[-1, 5]$

4) Find the area under the line  $y = \frac{1}{2}x + 2$ , above the parabola  $y = x^2$ , between the y axis and the line  $x=1$

5) Find the area of the region bounded by the parabola  $y = x^2$  and the line  $y=x+2$