BC CALCULUS PRACTICE 7.1 **Name:** _____ **Period** _____

Aisle _____ pg. 448 – 7, 11, 13, 17, 23, 25, 31, 33a, 37, 42, 45

Show all necessary work neatly.

In Exercises 7–14, sketch the region enclosed by the curves and find its area.

7. $y = x^2,\ y = \sqrt{x},\ x = 1/4,\ x = 1$

11. $x = \sin y,\ x = 0,\ y = \pi/4,\ y = 3\pi/4$

13. $y = e^x, y = e^{2x}, x = 0, x = \ln 2$

17. $y = 2 + |x - 1|,\ y = -\frac{1}{5}x + 7$

23. Use a graphing utility, where helpful, to find the area of the region enclosed by the curves.

$x = y^3 - y,\ x = 0$

25. Use a graphing utility, where helpful, to find the area of the region enclosed by the curves.

$y = xe^{x^2}, y = 2|x|$

31.

Find a horizontal line $y = k$ that divides the area between $y = x^2$ and $y = 9$ into two equal parts.

33.

(a) Find the area of the region enclosed by the parabola $y = 2x - x^2$ and the x-axis.

37. Use a graphing utility, if needed, to approximate the x-coordinates of the intersections of the curves, and then use those values to approximate the area of the region enclosed by the graphs of $y = x - 2$ and $y = \dfrac{\ln x}{x}$

45.

Find the area of the region enclosed between the curve $x^{1/2} + y^{1/2} = a^{1/2}$ and the coordinate axes.

42.

The accompanying figure shows acceleration versus time curves for two cars that move along a straight track, accelerating from rest at the starting line. What does the area A between the curves over the interval $0 \le t \le T$ represent? Justify your answer.