7.1 Area of a Region Between Two Curves

Name: Date: July 8, 2015

P 18. Sketch the region bounded by the graphs of the equations

$$y = -x^3 + 2, \ y = x - 3, \ x = -1, \ \text{and} \ x = 1$$

and find the area of the region.

P 22. Sketch the region bounded by the graphs of the equations

$$y = \frac{4}{x^3}, \ y = 0, \ x = 1, \ \text{and} \ x = 4$$

and find the area of the region.

P 24. Sketch the region bounded by the graphs of the equations

$$f(x) = \sqrt[3]{x - 1} \text{ and } f(x) = x - 1$$

and find the area of the region.

P 26. Sketch the region bounded by the graphs of the equations

$$f(y) = y(2 - y) \text{ and } g(y) = -y$$

and find the area of the region.

P 28. Sketch the region bounded by the graphs of the equations

$$f(y) = \frac{y}{\sqrt{16 - y^2}}, g(y) = 0, \text{ and } y = 3$$

and find the area of the region.

P 38. Sketch the region bounded by the graphs of the equations

$$f(x) = \sin x \text{ and } g(x) = \cos 2x,$$

where $-\pi/2 \le x \le \pi/6$ and find the area of the region.

P 64. Set up and evaluate the definite integral that gives the area of the region bounded by the graphs of

$$y = \frac{2}{1 + 4x^2}$$

and the tangent line to the graph at $(1/2, 1)$.