

CHAOS – Review for 7.1-7.3

Sketch the region bounded by the graphs of the equations, and determine the area of the region.

5.(7R) $y = x, y = x^3$

9.(7R) $y = \sin x, y = \cos x, \frac{\pi}{4} \leq x \leq \frac{5\pi}{4}$

21.(7.1) $f(x) = x^2 + 2x + 1, g(x) = 3x + 3$

29. (7.1) $f(y) = y^2 + 1, g(y) = 0, y = -1, y = 2$

Find the volume of the solid generated by revolving the plane region bounded by the equations about the indicated line(s).

6. $y = x^2, y = x^3$ rotated about the x-axis.

14. $y = 6 - 2x - x^2, y = x + 6$
a) the x-axis b) the line $y = 3$

19(7.2) Find the volume formed when revolving the region formed by $y = x, y = 0, y = 4, x = 6$ about the line $x = 6$

21.(7R) $y = x, y = 0, x = 4$
a) the x-axis b) the y-axis c) the line $x = 4$ d) the line $x = 6$

22. $y = \sqrt{x}, y = 2, x = 0$
a) the x-axis b) the line $y = 2$ c) the y-axis d) the line $x = -1$

28. $y = e^{-x}, y = 0, x = 1$ revolved about the x-axis

30. Consider the region bounded by the graphs of the equations $y = x\sqrt{x+1}$ and $y = 0$
Find the volume of the solid generated by revolving the region about the a) x-axis and b) the y-axis.

32. The region under the curve of $y = \frac{1}{x}$ from $x = 1$ to $x = 3$ is revolved about the x-axis. Find the volume of the solid formed.

62. Find the volume of the solid whose base is bounded by the graphs of $y = x + 6$ and $y = x^2 - 6$ with the indicated cross sections taken perpendicular to the x-axis.
a) Squares b) Rectangles of height 1

