

Volume by Shells Worksheet

For problems 1 - 18, sketch the region R bounded by the graphs of the equations, and find the volume of the solid generated if R is revolved about the indicated axis.

1. $y = \sqrt{x - 2}$, $y = 0$, and $x = 11$, y -axis
2. $y = x^2 + 1$, $y = 0$, $x = 0$, $x = 3$, y -axis
3. $2x + y = 6$, $x = 0$, $y = 0$, x -axis
4. $y = x^3 + 1$, $y = 9$, $x = 0$, x -axis
5. $y = \sqrt{x}$, $x = 4$, $y = 0$, y -axis
6. $y = \frac{1}{x}$, $x = 1$, $x = 2$, $y = 0$, y -axis
7. $y = x^2$, $y^2 = 8x$, y -axis
8. $16y = x^2$, $y^2 = 2x$, y -axis
9. $2x - y = 12$, $x - 2y = 3$, $x = 4$, y -axis
10. $y = x^3 + 1$, $x + 2y = 2$, $x = 1$, y -axis
11. $x - y = 4$, $x = 0$, $y = 0$, y -axis
12. $y = x^2 - 5x$, $y = 0$, y -axis
13. $x^2 = 4y$, $y = 4$, x -axis
14. $y^3 = x$, $y = 3$, $x = 0$, x -axis
15. $y = 2x$, $y = 6$, $x = 0$, x -axis
16. $2y = x$, $y = 4$, $x = 1$, x -axis
17. $y = \sqrt{x + 4}$, $y = 0$, $x = 0$, x -axis
18. $y = -x$, $x - y = -4$, $y = 0$, x -axis