

BC CALCULUS PRACTICE 7.3
Name: _____ **Period** _____

Aisle _____

pg. 464 – 5, 9, 11, 13, 16, 17, 20, 23

Show all necessary work neatly.

Use cylindrical shells to find the volume of the solid generated when the region enclosed by the given curve is revolved about the stated axis.

5. $y = x^3$, $x = 1$, $y = 0$
y-axis

9. $y = 2x - 1$, $y = -2x + 3$, $x = 2$
y-axis

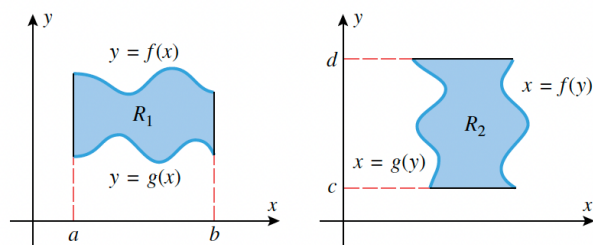
11. $y = \frac{1}{x^2+1}$, $x = 0$, $x = 1$, $y = 0$; y-axis

13. $y^2 = x$, $y = 1$, $x = 0$; x-axis

16. $xy = 4, x + y = 5$; x -axis

17. $y = e^x, y = 0, 1 \leq x \leq 2$; y -axis (Calculator active)

20. Let R_1 and R_2 be regions of the form shown in the accompanying figure. Use cylindrical shells to find a formula for the volume of the solid that results when
- (a) region R_1 is revolved about the y -axis
 - (b) region R_2 is revolved about the x -axis.



23.

Use cylindrical shells to find the volume of the solid that is generated when the region that is enclosed by $y = 1/x^3$, $x = 1$, $x = 2$, $y = 0$ is revolved about the line $x = -1$.