

Warm-up after Sec. 8.3: Volumes (day 2) Shell Method

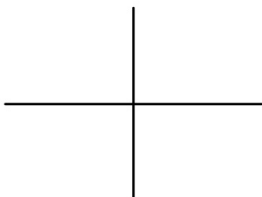
Find the volume generated by rotating the area about the given axis

$$x = y^2$$

a) rotate about $y = -5$

$$x = 16$$

b) rotate about $y = 7$



c) rotate about $x = 16$

d) rotate about $x = 20$

e) rotate about $x = -3$

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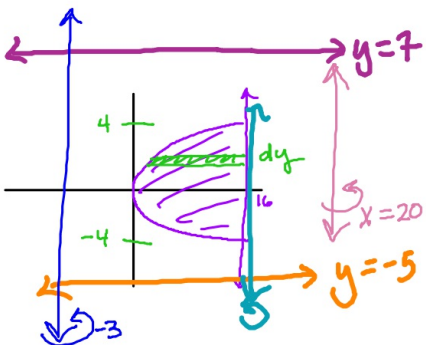
Find the volume generated by rotating the area about the given axis

$$x = y^2$$

a) rotate about $y = -5$

$$x = 16$$

$$V = 2\pi \int_{-4}^4 (y - (-5))(16 - y^2) dy$$



b) rotate about $y = 7$

$$V = 2\pi \int_{-4}^4 (7 - y)(16 - y^2) dy$$

c) rotate about $x = 16$

$$V = \pi \int_{-4}^4 (16 - y^2)^2 dy$$

d) rotate about $x = 20$

$$V = \pi \int_{-4}^4 [(20 - y^2)^2 - (20 - 16)^2] dy$$

e) rotate about $x = -3$

$$V = \pi \int_{-4}^4 [(16 - (-3))^2 - (y^2 - (-3))^2] dy$$