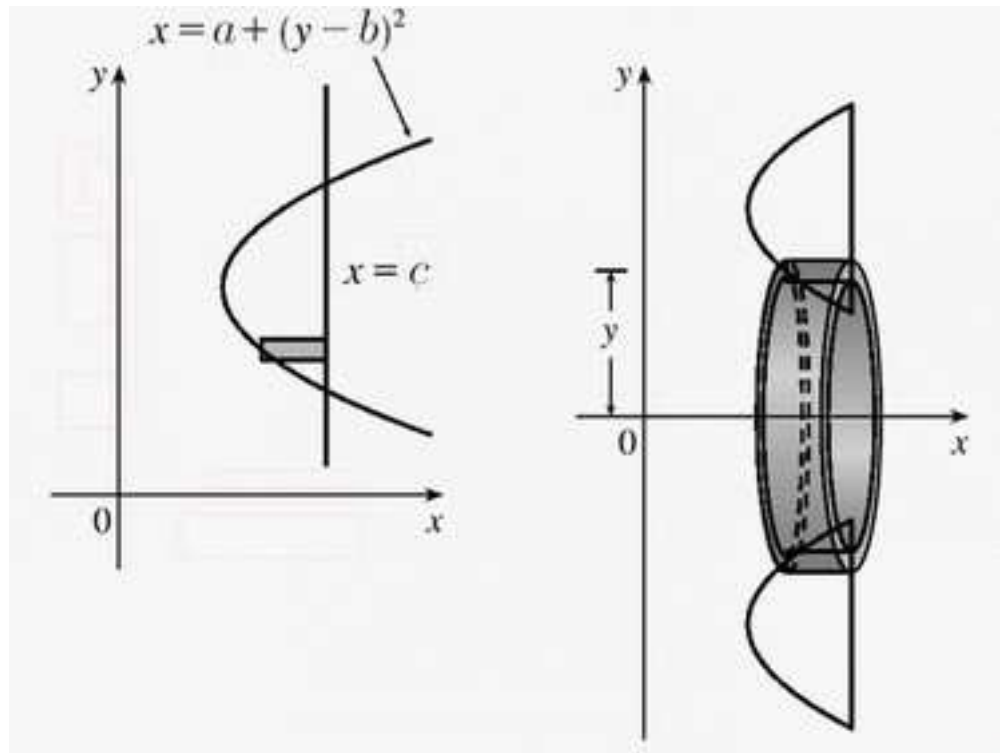


The height of the shell is $13 - [4 + (y - 7)^2] = 9 - (y - 7)^2$
 $= 9 - (y^2 - 14y + 49) = -y^2 + 14y - 40.$

$$\begin{aligned} V &= 2\pi \int_4^{10} y(-y^2 + 14y - 40) dy \\ &= 2\pi \int_4^{10} (-y^3 + 14y^2 - 40y) dy \\ &= 2\pi \left[-\frac{1}{4}y^4 + \frac{14}{3}y^3 - 20y^2 \right]_4^{10} \\ &= 2\pi \left[\left(-2500 + \frac{14000}{3} - 2000 \right) - \left(-64 + \frac{896}{3} - 320 \right) \right] \\ &= 2\pi(252) = 504\pi \end{aligned}$$



$$a = 4, b = 7, c = 13$$