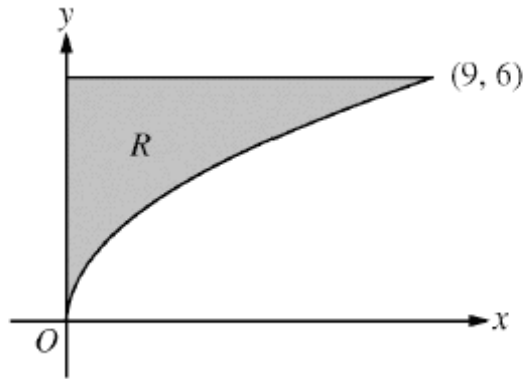


AB/BC 4



$$y = 6 \text{ and } y = 2\sqrt{x}$$

(a)
$$\text{Area} = \int_0^9 (6 - 2\sqrt{x}) dx = 6x - \frac{4}{3}x^{3/2} \Big|_0^9 = 54 - 36 = \boxed{18}$$

(b) Volume revolved about $y = 7$ is
$$\pi \int_0^9 \left[(7 - 2\sqrt{x})^2 - (7 - 6)^2 \right] dx$$

- (c) Volume of the solid whose base is R with cross sections that are rectangles perpendicular to the y -axis:

$$\text{If } y = 2\sqrt{x} \Rightarrow x = \frac{1}{4}y^2$$

Area of the rectangular cross section = (base)(height) =

$$(b)(3b) = 3b^2 = 3x^2 = 3\left(\frac{1}{4}y^2\right)^2 = \frac{3}{16}y^4$$

$$\int_0^6 (\text{Area of a cross section}) dy = \boxed{\int_0^6 \frac{3}{16}y^4 dy}$$