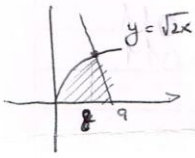
2.53
ת4



$y' = \frac{2}{2\sqrt{2x}} = \frac{1}{\sqrt{2x}}$

$y'(8) = \frac{1}{4}$

משוואת המשיק בנקודה (8,4): $m = -4$

$y = -4x + 36$

$$\pi\int_0^8 2x\,dx + \pi\int_8^9 (-4x+36)^2\,dx = \pi x^2\Big|_0^8 + \pi\left[\frac{16x^3}{3} - 144x^2 + 1296x\Big|_8^9\right] =$$

$$= 64\pi + \frac{3456\pi}{3} - 2448\pi + 1296\pi = 69\tfrac{1}{3}\pi$$