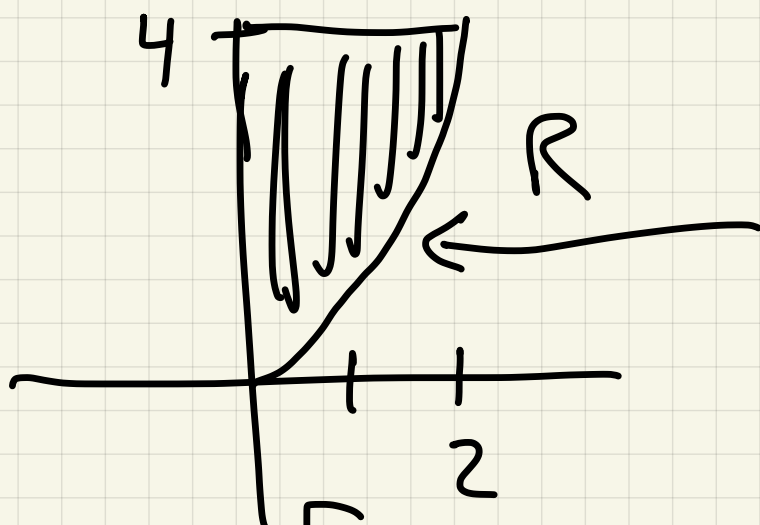


Quiz 15

(a)  $\int_0^2 \int_{x^2}^4 2x \, dy \, dx = \int_0^2 2xy \Big|_{x^2}^4 =$

$\int_0^2 8x - 2x^3 \, dx = 4x^2 - \frac{1}{2}x^4 \Big|_0^2 = 8.$

(b)



$y = x^2$   
so  
 $x = \sqrt{y}$

(c)  $\int_0^4 \int_0^{\sqrt{y}} 2x \, dx \, dy$

$= \int_0^4 x^2 \Big|_0^{\sqrt{y}} \, dy = \int_0^4 y \, dy =$   
 $\frac{1}{2}y^2 \Big|_0^4 = \frac{16}{2} = 8 \checkmark$