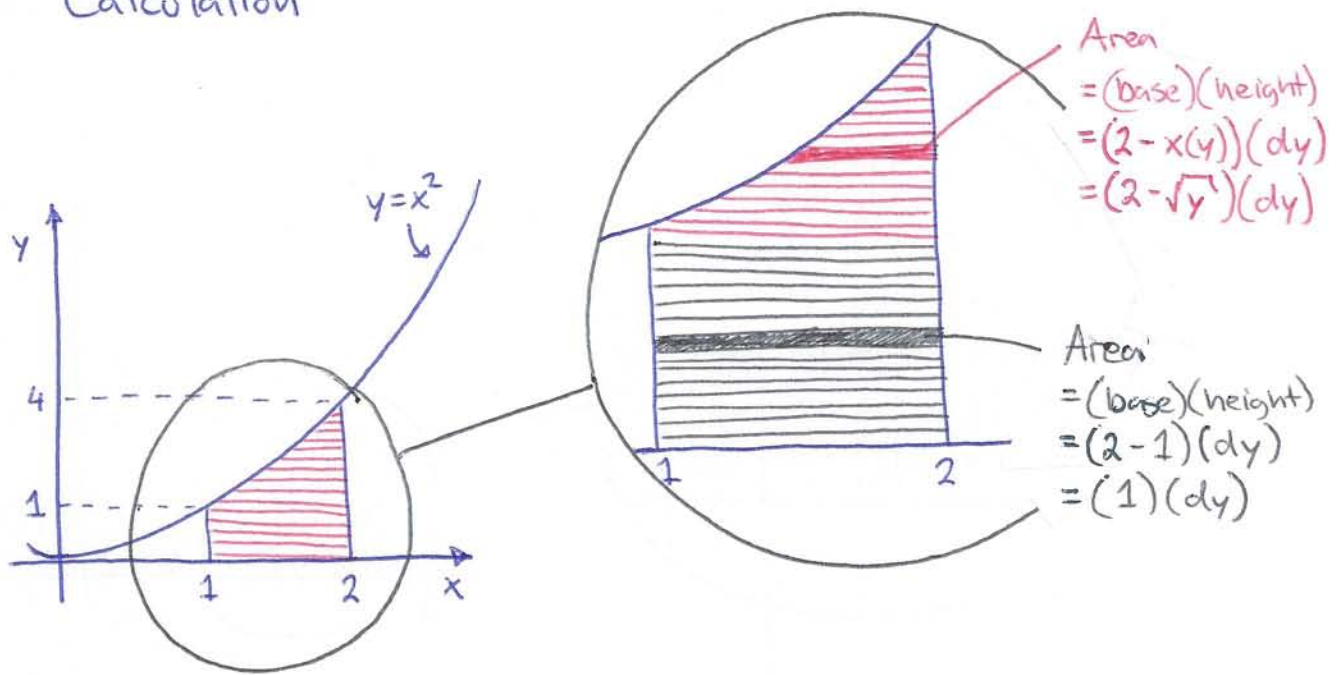


Area Calculation



$$\text{Area} = \int_0^1 \overset{\text{base}}{(1)} \overset{\text{height}}{(dy)} + \int_1^4 \overset{\text{base}}{(2 - \sqrt{y})} \overset{\text{height}}{(dy)}$$

$$= [y]_0^1 + \left[2y - \frac{2}{3} y^{\frac{3}{2}} \right]_1^4$$

$$= ([1] - [0]) + \left(\left[2(4) - \frac{2}{3}(4)^{\frac{3}{2}} \right] - \left[2(1) - \frac{2}{3}(1)^{\frac{3}{2}} \right] \right)$$

$$= 1 + 8 - \frac{16}{3} - 2 + \frac{2}{3}$$

$$= \frac{7}{3} \approx 2.3 \text{ units}^2$$