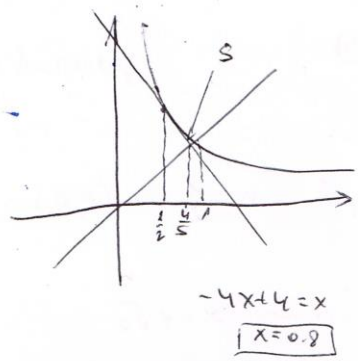


2.48  
S



$(\frac{1}{2}, 2)$  ,  $\bar{x}$  ,  $\bar{y}$  (ממוצע הנקודות)

$$f' = -\frac{1}{x^2}$$

$$f'(\frac{1}{2}) = -4$$

$$y = -4x + 4$$

אורך החיתוך בין הנקודות

$$-4x + 4 = x$$

$$\boxed{x = 0.8}$$

$$S = \int_{\frac{1}{2}}^{0.8} (\frac{1}{x} - 4x + 4) dx + \int_{0.8}^1 (\frac{1}{x} - x) dx = \ln x + 2x^2 - 4x \Big|_{0.5}^{0.8} + \ln x - \frac{x^2}{2} \Big|_{0.8}^1 =$$

$$= \ln 0.8 + 1.28 - 3.2 - \ln 0.5 + 0.5 + 2 + \ln 1 - \frac{1}{2} - \ln 0.8 + 0.32$$

$$= -\ln 0.5 - 0.6 + \ln 0.5 - 0.6 = \ln 2 - 0.6$$