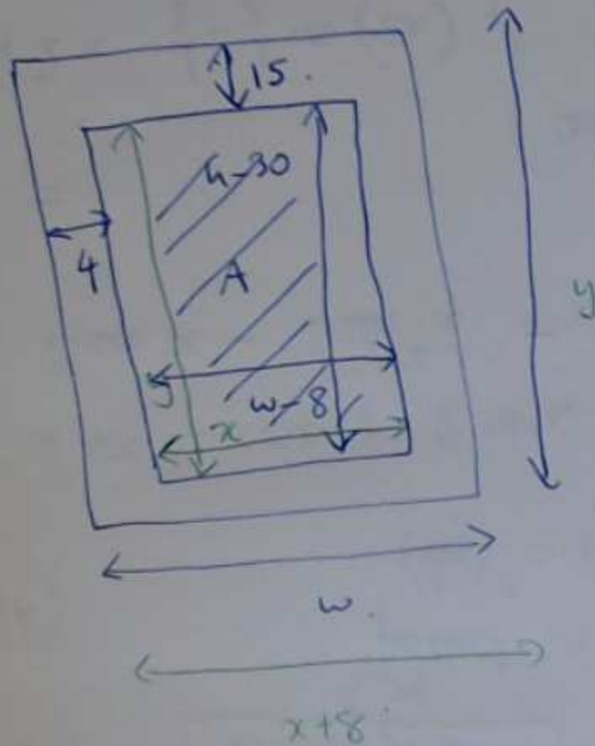
(1)

$hw = 12{,}000$ (+)




$A = (w-8)(h-30)$ (++)

$w = \frac{12000}{h}$ (+)

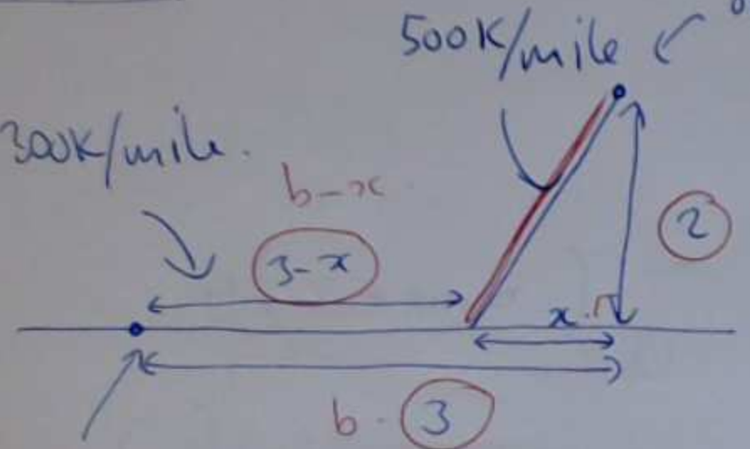
(++) $A = \left(\frac{12000}{h} - 8\right)(h-30)$

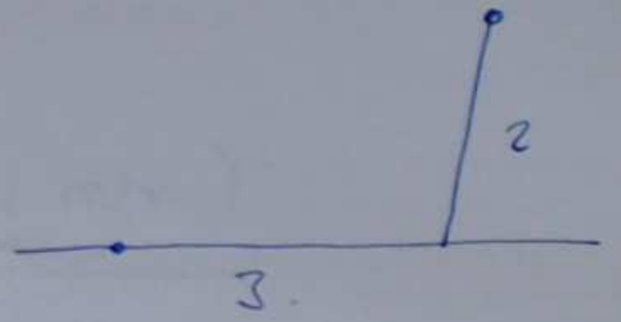
$(x+8)(y+60) = 12000$

max $A = xy$

# Project 9&7

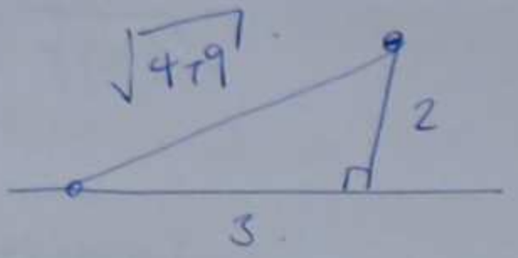




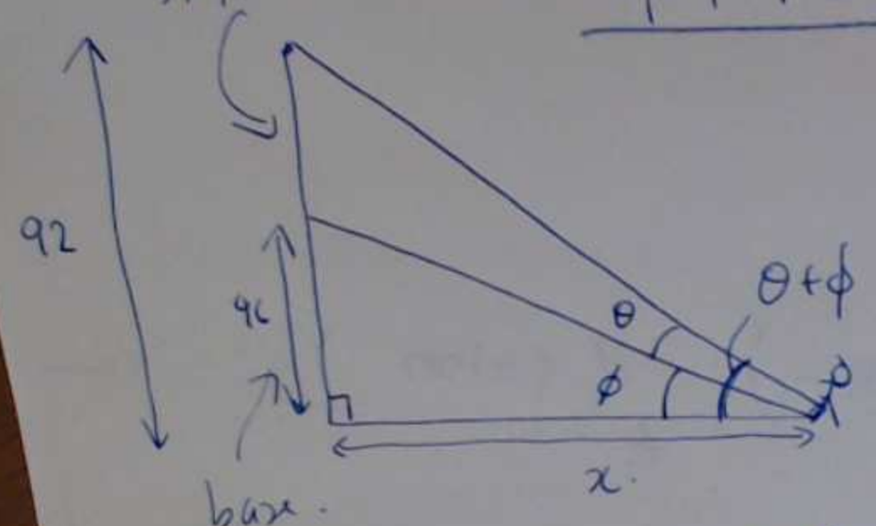




$$\text{cost} = (b-x) \times 300K + \sqrt{a^2+x^2} \times 500K.$$

$$\text{cost} = 2 \times 500K + 3 \times 300K$$



# Project 9 Q8




$$\frac{46}{x} = \tan\phi \quad (*)$$

$$\frac{92}{x} = \tan(\theta+\phi) \quad (**)$$

(*) $\phi = \text{atan}\left(\frac{46}{x}\right)$

(**) $\theta+\phi = \text{atan}\left(\frac{92}{x}\right)$

$\theta = \text{atan}\left(\frac{92}{x}\right) - \phi = \text{atan}\left(\frac{92}{x}\right)$

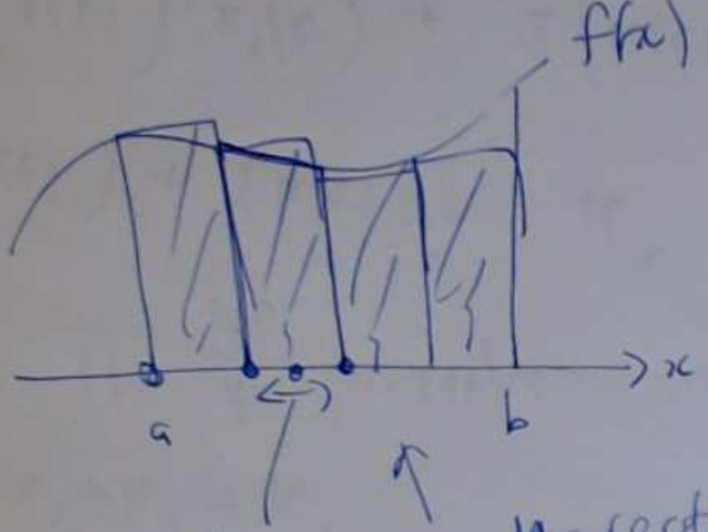
$\theta = \text{atan}\left(\frac{92}{x}\right) - \text{atan}\left(\frac{46}{x}\right)$

WW 10 Q2

$$g(x) = x^4 + 10x^2 - 60x + 71$$

$$\int x^n \, dx = \frac{x^{n+1}}{n+1}$$

$$\int g(x)\,dx = G(x) = \frac{1}{5}x^5 + \frac{10x^3}{3} - \frac{60x^2}{2} + 71x + C$$



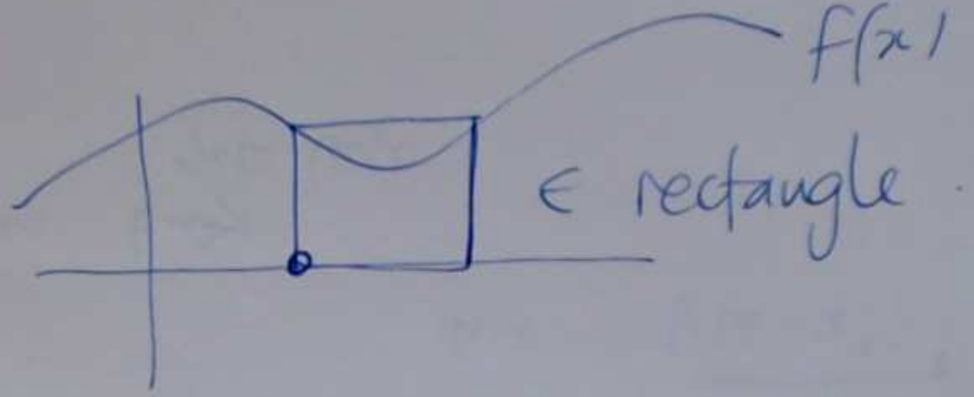

$\frac{b-a}{n}$

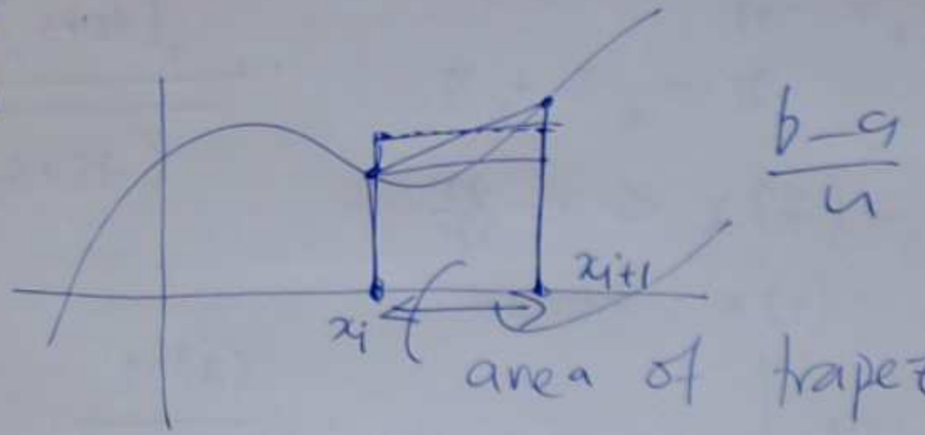
n-rectangles

riemann(f, a, b, n, ___)

method = "left"

## trapezoid




area of trapezoid.

= base × average of ~~heights~~

$$\frac{b-a}{n} \times \left( \frac{f(x_i)+f(x_{i+1})}{2} \right)$$