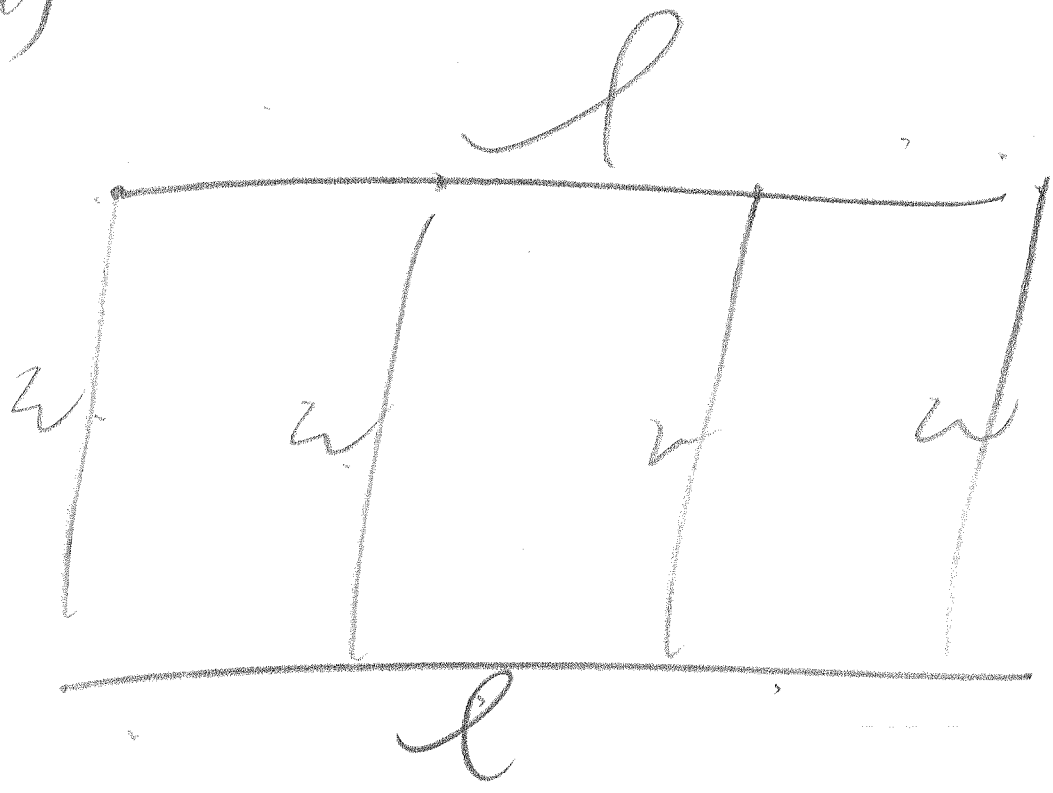


MCR23U

p40 #7

(1.1) to (1.4)

7a)



$$600 = 2l + 4w$$

$$600 - 4w = 2l$$

$$l = \frac{600 - 4w}{2} = 300 - 2w$$

d  $A = lw$

$$A = (300 - 2w)(w)$$

$$A = -2w^2 + 300w$$

$$A = -2(w^2 - 150w)$$

$$\begin{aligned} & x^2 + 6x + 9 \\ &= (x+3)(x+3) \end{aligned}$$

$b = -150$

$$\frac{b}{2} = -75$$

$$\left(\frac{b}{2}\right)^2 = +5625$$

$$A = -2(w^2 - 150w + 5625 - 5625)$$

$$A = (w^2 - 150w + 5625) + 11250$$

max area

$$A = (w - 75)(w - 75) + 11250$$

$$\rightarrow A = (w - 75)^2 + 11250$$

3

max area  $11250 \text{ m}^2$

width produces max  $75 \text{ m}$

$$A = (w - 75)^2 + 11250$$

b)

$$D \{x \in \mathbb{R}\}$$

$a = +1$  up -  
start

$$(75, 11250)$$

$$R \{y \geq 11250\}$$