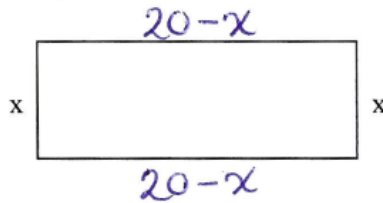


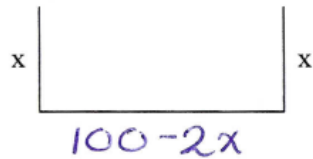
Worksheet #2

1. You have 40 m of fencing to enclose a rectangular area. Write an equation which could be used to represent the area.



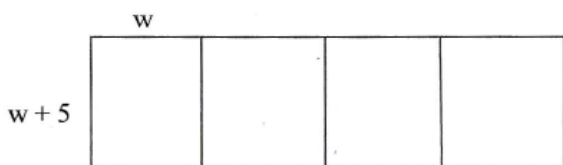
Perimeter = 40m      Therefore:  $A = l \times w$   
 let  $x = \text{width}$        $A = (20-x)(x)$   
 Then  $\frac{40-2x}{2} = \text{length}$   
 $\Rightarrow 20-x = \text{length}$

2. You have 100 m of fencing to enclose a rectangular area on three sides, leaving one side open. Write an equation which could be used to represent the area.



Perimeter = 100m      Therefore:  $A = l \times w$   
 let  $x = \text{width}$        $A = (100-2x)(x)$   
 Then  $100-2x = \text{length}$

3. 4 large pens have a total area of  $100 \text{ m}^2$ . Write an equation which would solve for the width "w".



$$\text{Total Area} = 100 \text{ m}^2$$

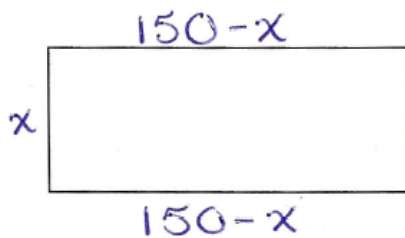
$$\begin{aligned} \text{Therefore Area of} \\ \text{each pen} &= \frac{100 \text{ m}^2}{4} \\ &= 25 \text{ m}^2 \end{aligned}$$

Then,

$$\begin{aligned} A &= l \times w \\ 25 &= (w)(w+5) \end{aligned}$$

If  $w+5 = \text{width}$   
and  $w = \text{length}$

4. A children's play area is to be fenced in on all sides with 300 m of fencing. Write an equation which could give this area.



$$\text{Perimeter} = 300 \text{ m}$$

$$\text{let } x = \text{width}$$

$$\text{Then } \frac{300 - 2x}{2} = \text{length}$$

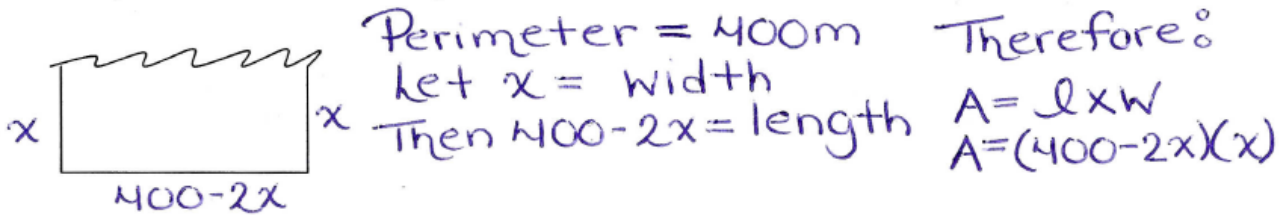
$$\Rightarrow 150 - x = \text{length}$$

Therefore:

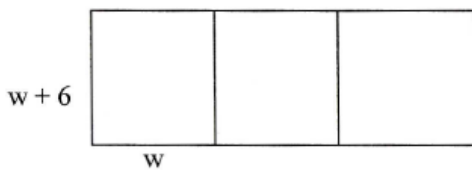
$$A = l \times w$$

$$A = (150 - x)(x)$$

5. A beach resort area is to be fenced in on three sides with the open side facing the water. There is 400 m of rope for the fence. Write an equation which could be used to calculate the area of the resort.



6. There are three pens with a total area of  $96 \text{ m}^2$ . Find an equation which could calculate the value of "w".



Total Area =  $96 \text{ m}^2$   
 Therefore Area of each pen =  $\frac{96 \text{ m}^2}{3}$   
 $= 32 \text{ m}^2$

Since:  
 $w + 6$  = width  
 $w$  = length  
 Therefore:  
 $A = l \times w$   
 $32 = (w)(w + 6)$