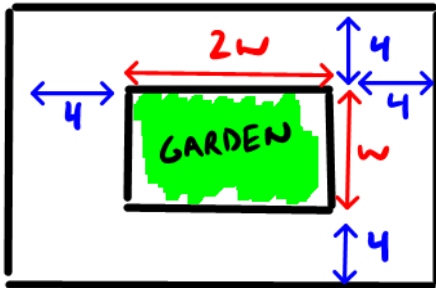


Performance Task - Word Problems

1. A rectangular garden has a length that is twice its width. There is a 4m walkway all around the outside perimeter of the garden. If the outside perimeter of the walkway is 344m, find the dimensions of the garden. Include a labelled diagram in your solution.



let w be the width } garden
let $2w$ be the length }

let $w+8$ be the width } garden + walkway
let $2w+8$ be the length }

$$P = 2l + 2w$$

$$P = 2(w+8) + 2(2w+8)$$

$$344 = 2w + 16 + 4w + 16$$

$$344 = 6w + 32$$

$$344 - 32 = 6w$$

$$312 = 6w$$

$$\frac{312}{6} = \frac{6w}{6}$$

$$\boxed{52 = w}$$

$$l = 2w$$

$$l = 2(52)$$

$$\boxed{l = 104}$$

check:

$$P = 2(52+8) + 2[2(52)+8]$$

$$P = 2(60) + 2[112]$$

$$P = 120 + 224$$

$$P = 344m$$

dimensions are 52m x 104m

2. Large pizzas cost \$12.50 and small pizzas cost \$9.00. The pizza parlour sold 38 pizzas with a total value of \$415.50. How many of each type did the pizza parlour sell?

let p be the # of large pizza
 let $38-p$ be the # of small pizza

$$12.50p + 9.00(38-p) = 415.50$$

$$12.50p + 342.00 - 9p = 415.50$$

$$3.50p = 415.50 - 342.00$$

$$\cancel{3.50}p = \frac{73.50}{\cancel{3.50}}$$

$$p = 21$$

$$\begin{aligned} &= (38-p) \\ &= (38-21) \\ &= 17 \text{ small pizzas} \end{aligned}$$

∴ sold 17 small and 21 large pizzas

$$= 17(9) + 21(12.50)$$

$$= 153 + 262.50$$

$$= 415.50 \longleftarrow \text{matches total value given above}$$