**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

Let $2w$ be the length

Let $w + 8$ be the width

Let $2w + 8$ be the length

\[ P = 2(2w + 8) + 2(2w + 8) \]

\[ 344 = 2w + 16 + 4w + 16 \]

\[ 344 = 6w + 32 \]

\[ 344 - 32 = 6w \]

\[ 312 = 6w \]

\[ \frac{312}{6} = \frac{6w}{6} \]

\[ 52 = w \]

\[ l = 2w \]

\[ l = 2(52) \]

\[ l = 104 \]

Dimensions are 52m x 104m

check:

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

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

\[ P = 120 + 224 \]

\[ P = 344 \text{m} \]
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 number of large pizzas
Let \( 38 - p \) be the number of small pizzas

\[
12.50p + 9.00(38 - p) = 415.50
\]

\[
12.50p + 342.00 - 9p = 415.50
\]

\[
3.50p = 415.50 - 342.00
\]

\[
3.50p = 73.50
\]

\[
p = \frac{73.50}{3.50} = 21
\]

\[
\therefore \text{sold 17 small and 21 large pizzas}
\]

\[
= 17(9) + 21(12.50)
\]

\[
= 153 + 262.50
\]

\[
= 415.50 \text{ matches total value given above}
\]