

Math 1513 - College Algebra

Quiz #4 - 2008.09.18

Solutions

The perimeter of a rectangle is 310 m. The length is 10 m less than twice the width. What are the length and width?

First we would draw a rectangle and label the sides l and w . We will skip that step here. The perimeter is given by $2l + 2w = 310$ and is measured in meters. The length l can be rewritten as $l = 2w - 10$. So we have the following two equations:

$$310 = 2l + 2w$$

$$l = 2w - 10$$

Plugging in the second equation into the first yields

$$310 = 2(2w - 10) + 2w$$

and simplifying gives

$$330 = 6w.$$

So $w = 55$ m and this means that $l = 2 \cdot 55 - 10 = 100$ m. So the length and width of the rectangle are 100 m and 55 m respectively.