**QUESTION:**

rectangle has a perimeter of 968 ft, then length is 152 more than the width. find the width

**SOLUTION:**

Let's denote the length of rectangle as **a**, and the width of rectangle as **b**

Hence, the perimeter of rectangle

$a+a+b+b=2a+2b=968\ \ ft$

And

$a-b=152$

Hence

$$\begin{cases}2a+2b=968\\a-b=152\end{cases}\Rightarrow\begin{cases}a+b=\dfrac{968}{2}\\a-b=152\end{cases}\Rightarrow\begin{cases}a+b=484\\a-b=152\end{cases}\Rightarrow$$

$$\Rightarrow\begin{cases}a+b=484\\a=152+b\end{cases}\Rightarrow\begin{cases}152+b+b=484\\a=152+b\end{cases}\Rightarrow\begin{cases}2b=484-152\\a=152+b\end{cases}\Rightarrow$$

$$\Rightarrow\begin{cases}b=166\\a=152+166\end{cases}\Rightarrow\begin{cases}b=166\\a=318\end{cases}$$

**ANSWER:**

the length of rectangle is 318 ft, the height of rectangle is 166 ft