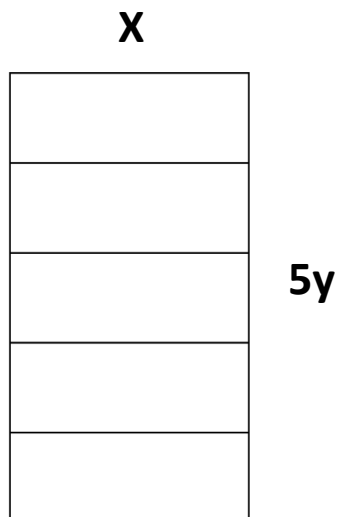


May 7<sup>th</sup>

A large rectangle is divided into 5 congruent rectangles that are mathematically similar to it.

For the large rectangle, what is the ratio of the length of the width to the length?



Each rectangle is length  $x$  and width  $y$

Hence the ratios  $x:y$  and  $5y:x$  are equal

Therefore  $x^2 = 5y^2$

So  $x = \sqrt{5} y$

Hence the ratio of length to width of the large rectangle is

$5y : \sqrt{5} y$

Which is equivalent to

**$\sqrt{5} : 1$**