

From Similar Rectangles to Triangles - Answers

I labelled the triangles A, B and C

- ① $\triangle C$ has a height that is three times the height of $\triangle A$
Compare lengths in $\triangle C$ to lengths in $\triangle A$

$$\frac{\triangle C}{\triangle A} \quad \frac{6}{2} = 3 \quad \frac{6.72}{2.24} = 3 \quad \frac{8.49}{2.83} = 3 \quad \frac{9}{3} = 3$$

The corresponding sides have the same ratio so $\triangle C$ and $\triangle A$ are similar triangles

- ② $\triangle B$ and $\triangle C$

$\triangle C$ has a height that is two times the height of $\triangle B$
Compare lengths in $\triangle C$ to lengths in $\triangle B$

$$\frac{\triangle C}{\triangle B} \quad \frac{6}{3} = 2 \quad \frac{6.72}{3.16} = 2.13 \quad \frac{8.49}{4.24} = 2 \quad \frac{9}{4} = 2.25$$

The corresponding sides do not have the same ratio so $\triangle B$ and $\triangle C$ are not similar.

- ③ $\triangle A$ and $\triangle B$ cannot be similar if $\triangle B$ is not similar to $\triangle C$.

$$\frac{\triangle B}{\triangle A} \quad \frac{3}{2} = 1.5 \quad \frac{3.16}{2.24} = 1.41$$

The corresponding lengths do not have the same ratio.