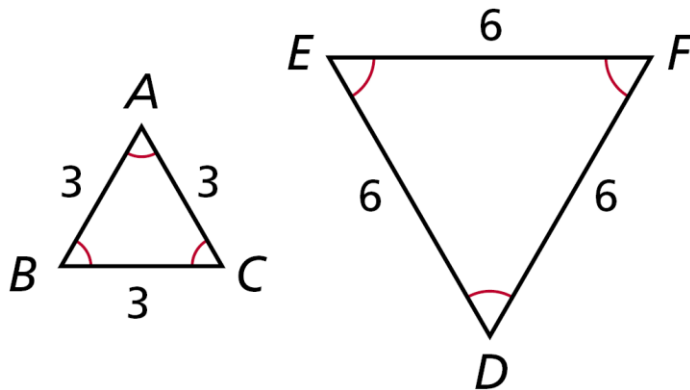


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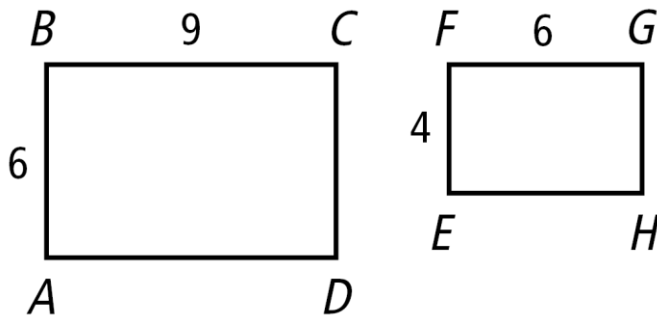
Similar Polygons Day 2

A **similarity ratio** is the ratio of the lengths of the corresponding sides of two similar polygons.



The similarity ratio for the triangles above is $\frac{3}{6}$ or $\frac{1}{2}$. That ratio could be flipped and be $\frac{6}{3}$ or $\frac{2}{1}$.

Example: Determine whether the polygons are similar. If so, write the similarity ratio and a similarity statement. Rectangles ABCD and EFGH

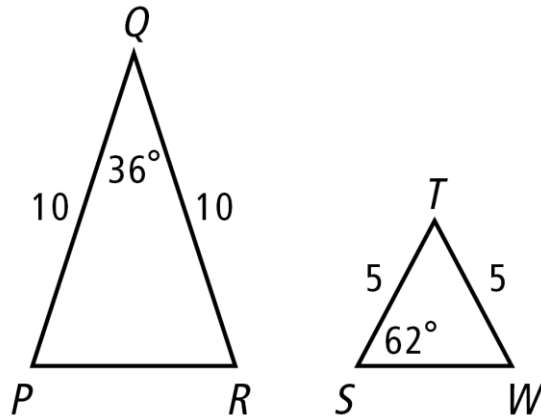


All rectangles are similar because each angle is 90° .

Similarity ratio: $\frac{6}{4} = \frac{3}{2}$

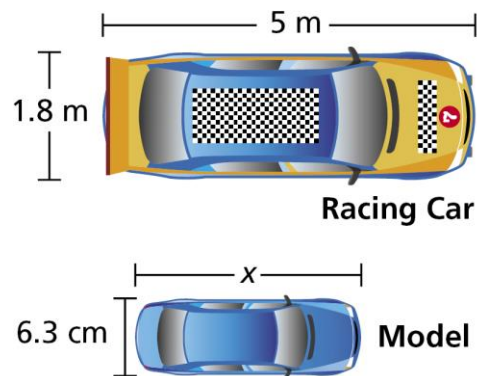
Similarity statement: **$ABCD \sim EFGH$**

Example: Determine whether the polygons are similar. If so, write the similarity ratio and a similarity statement. $\triangle PQR$ and $\triangle STW$



The triangles are **not similar** because the three pairs of corresponding angles are not congruent.

Example: Find the length of the model to the nearest tenth of a centimeter.



Since the race car and its model are similar, the side lengths are proportional. Therefore, set up a proportion to find the missing length.

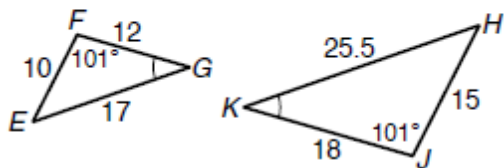
$$\frac{\text{length of race care}}{\text{length model}} = \frac{\text{width of race car}}{\text{width of model}}$$

$$\begin{aligned}\frac{5}{x} &= \frac{1.8}{6.3} \\ 1.8x &= 31.5 \\ x &= \mathbf{17.5\text{ cm}}\end{aligned}$$

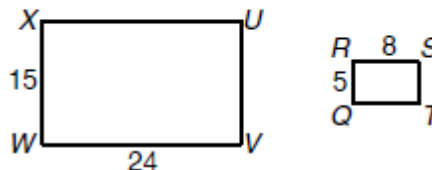
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Similar Polygons Day 2

Determine if the polygons are similar. If so, write the similarity ratio and similarity statement.

1. $\triangle EFG$ and $\triangle HJK$



2. rectangles $QRST$ and $UVWX$



3. A rectangle is 3.2 centimeters long and 8 centimeters long. A similar rectangle is 5 centimeters long. What is the width of the second rectangle?

4. The two rectangles are similar. What is the value of x to the nearest tenth?

