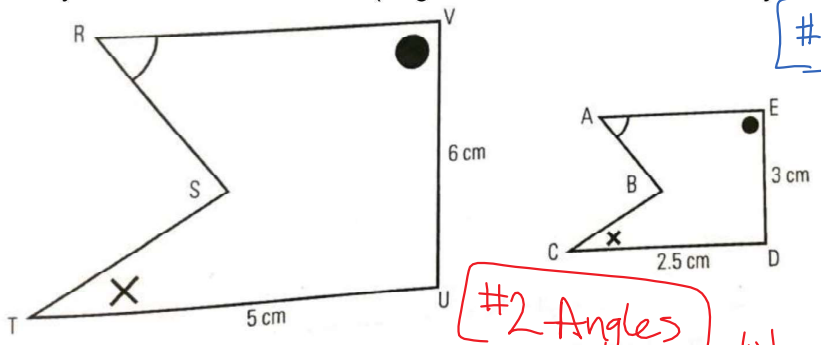
PROVE

6.2 – Determining if Two Polygons Are Similar

In 6.1 we considered two or more similar figures and found their corresponding sides and angles. Now we will be determining if figures are similar based on the sides and angles given to us. To do this you must determine one of two things:

1. Are the ~~a~~ all corresponding sides in the same proportions?
2. Are all the corresponding angles equal?

Example 1:
Are the two pentagons shown below similar? If so, explain how you know. If not, explain what you would need to know. (*Angles marked with the same symbol are equal.*)



#1 → SIDES

$\frac{TU}{CD} = \frac{5cm}{2.5cm} = 2$

$\frac{VU}{EU} = \frac{6cm}{3cm} = 2$

* Probably similar, but cannot say for sure!

#2 Angles

$\angle T = \angle C$

$\angle R = \angle A$

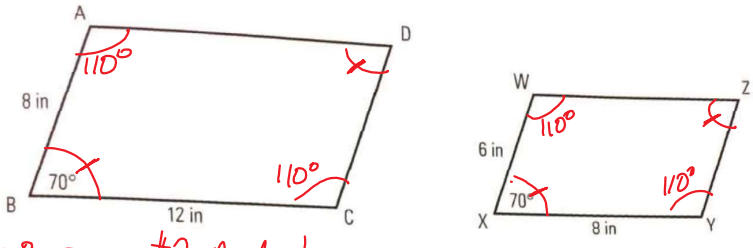
$\angle V = \angle E$

* We cannot prove $\angle S = \angle B$ and $\angle U = \angle D$.

Therefore, we cannot state that the pentagons are similar

**Complete Build Your Skills #1-3 on page 266.*

Example 2:
Determine if the two given parallelograms, ABCD and WXYZ, are similar.



#1 - Sides

$\frac{AB}{WX} = \frac{8in}{6in} = 1.\overline{3}$

$\frac{BC}{XY} = \frac{12in}{8in} = 1.5$

$\angle A = 180° - 70°$ #2 Angles

All corresponding angles are equal!

* NOT SIMILAR! → sides not in same proportion even corresponding angles are equal.

**Complete Build Your Skills #4-6 on pages 268-269.*

**Complete Practise Your New Skills #1-5 on pages 269-270.*