



# Similar Polygons

1. Name the corresponding angles and sides on the following figures:

a)  $\triangle ABC$  and  $\triangle DEF$

$$\angle A = \angle \underline{\hspace{1cm}}$$

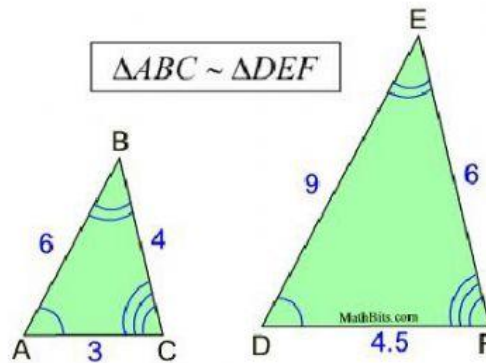
$$\angle B = \angle \underline{\hspace{1cm}}$$

$$\angle C = \angle \underline{\hspace{1cm}}$$

$$\overline{AB} = \underline{\hspace{1cm}}$$

$$\overline{BC} = \underline{\hspace{1cm}}$$

$$\overline{CA} = \underline{\hspace{1cm}}$$



b) polygon JKLM and polygon QNOP

$$\angle J = \angle \underline{\hspace{1cm}}$$

$$\angle K = \angle \underline{\hspace{1cm}}$$

$$\angle L = \angle \underline{\hspace{1cm}}$$

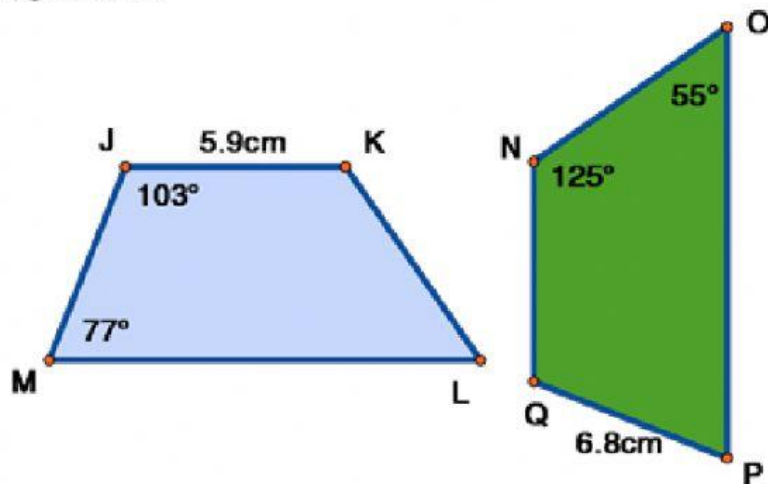
$$\angle M = \angle \underline{\hspace{1cm}}$$

$$\overline{JK} = \underline{\hspace{1cm}}$$

$$\overline{KL} = \underline{\hspace{1cm}}$$

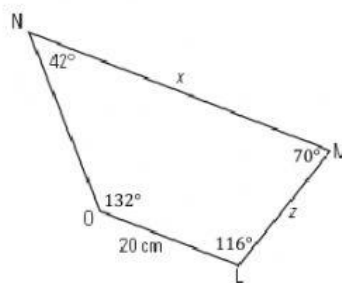
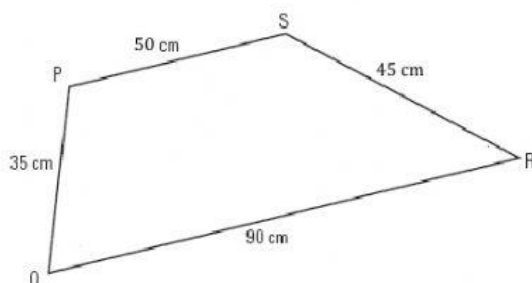
$$\overline{LM} = \underline{\hspace{1cm}}$$

$$\overline{MJ} = \underline{\hspace{1cm}}$$



2. If trapezoid PQRS is similar to trapezoid LMNO:

a) What are the values of  $\angle P$ ,  $\angle S$ ,  $\angle R$ , and  $\angle Q$ ?



$$\angle P = \underline{\hspace{1cm}}^\circ$$

$$\angle S = \underline{\hspace{1cm}}^\circ$$

$$\angle R = \underline{\hspace{1cm}}^\circ$$

$$\angle Q = \underline{\hspace{1cm}}^\circ$$

b) What are the values of  $\overline{LM}$ ,  $\overline{MN}$ ,  $\overline{NO}$ , and  $\overline{OL}$ ?

Scale Factor:  $\underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

fraction    number/decimal

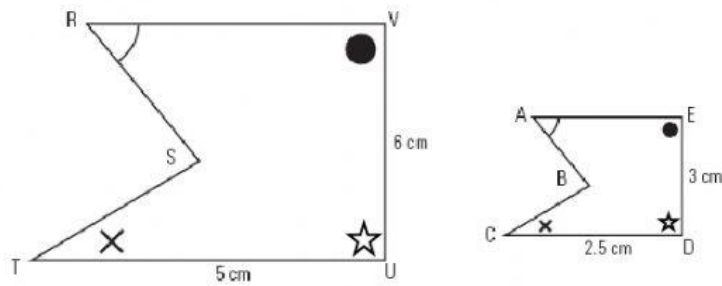
$$\overline{LM} = \underline{\hspace{1cm}} \text{ cm}$$

$$\overline{MN} = \underline{\hspace{1cm}} \text{ cm}$$

$$\overline{NO} = \underline{\hspace{1cm}} \text{ cm}$$



3. Are the two pentagons shown below similar? (Angles marked with the same symbol are equal.)



- a) corresponding angles  $\angle R$  and  $\angle$  \_\_\_\_\_  
 corresponding angles  $\angle V$  and  $\angle$  \_\_\_\_\_  
 corresponding angles  $\angle U$  and  $\angle$  \_\_\_\_\_  
 corresponding angles  $\angle T$  and  $\angle$  \_\_\_\_\_

- b) the scale factor for  $\overline{VU}$  and its corresponding side is:

\_\_\_\_\_ = \_\_\_\_\_  
 fraction    number/decimal

the scale factor for  $\overline{UT}$  and its corresponding side is:

\_\_\_\_\_ = \_\_\_\_\_  
 fraction    number/decimal

\_\_\_\_\_, they \_\_\_\_\_ similar because all corresponding angles are \_\_\_\_\_ and the scale factors are \_\_\_\_\_.

4. Frank enlarges a photo to poster size. The original photo is 5" by 7". If Frank enlarges it to 1 m by 1.5 m, will it be similar to the original?



The scale factor to enlarge from 5" to 1 m is:

\_\_\_\_\_ = \_\_\_\_\_  
 fraction    number/decimal (round to one decimal place)

The scale factor to enlarge from 7" to 1.5 m is:

\_\_\_\_\_ = \_\_\_\_\_  
 fraction    number/decimal (round to one decimal place)

\_\_\_\_\_, the poster \_\_\_\_\_ similar to the original because the scale factors are \_\_\_\_\_.