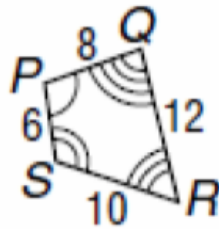
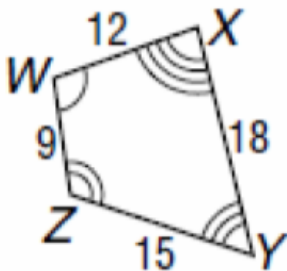


## Similar Polygons

A polygon is a two-dimensional closed figure made of three or more line segments.



Similar polygons - have the same shape but different size  
 - have equal corresponding angles  
 - have proportional corresponding sides



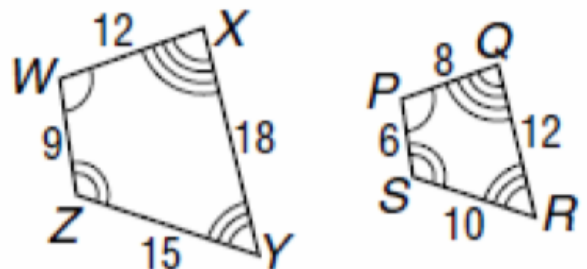
### Corresponding Angles    Corresponding Sides

|            |     |            |      |     |      |
|------------|-----|------------|------|-----|------|
| $\angle W$ | and | $\angle P$ | $WX$ | and | $PQ$ |
| $\angle X$ | and | $\angle Q$ | $XY$ | and | $QR$ |
| $\angle Y$ | and | $\angle R$ | $YZ$ | and | $RS$ |
| $\angle Z$ | and | $\angle S$ | $ZW$ | and | $SP$ |

We can say  $WXYZ \sim PQRS$ .

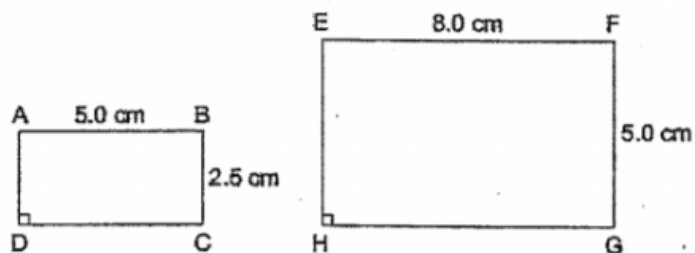
### Example 1 - Identifying Similar Polygons

Determine if  $WXYZ$  is similar to  $PQRS$ .



## Example 2 - Identifying Similar Polygons

Determine if  $ABCD \sim EFGH$ .

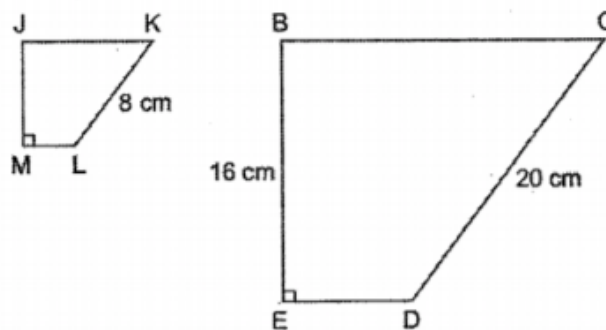


Practice the following before moving on to the next example:

Page 157 #3

## Example 3 - Determining a Missing Side

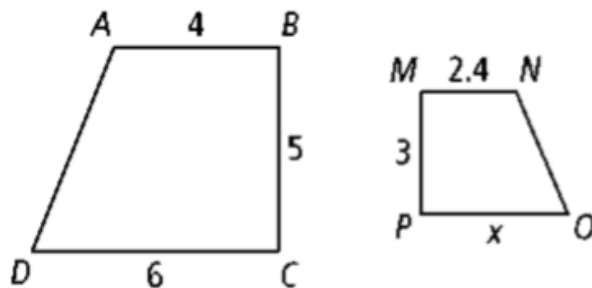
$JKLM$  is similar to  $BCDE$ . Determine the missing side  $JM$ .



### Example 4 - Determining a Missing Side

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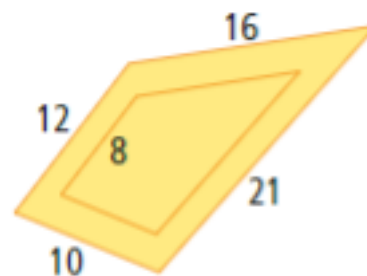
$ABCD$  is similar to  $NMPO$ . Determine the missing side.



### Example 5 - Determining a Missing Side

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A piece of cardboard is cut showing the inner and outer boundaries of a pair of similar quadrilaterals. Determine the missing sides for the inner quadrilateral.



Practice the following: Page 157 #5 + Worksheet

Outcomes: SS4 - Draw and interpret scale diagrams of 2-D shapes  
 SS3 - Demonstrate an understanding of similarity of polygons