

Sometimes when we are enlarging a figure we can look to the scale factor to let us know how much larger or smaller our new object will be drawn.

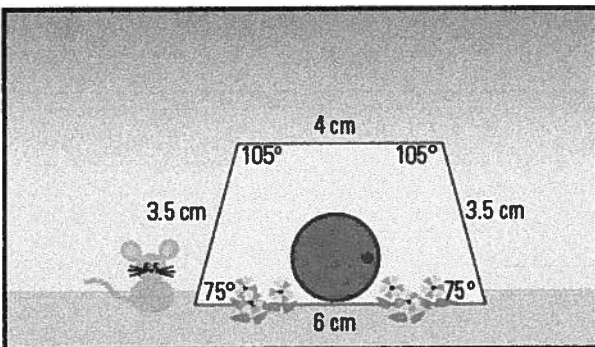
**Scale Factor:**

Scale Factor greater than 1 will

Scale Factor that is a fraction will

### Example 1

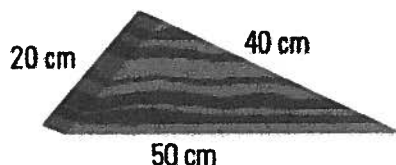
If you were to enlarge the figure below by a factor of 1.5, what would be the dimensions of the larger version be. Include the side lengths and angle measurements.



### Example 2

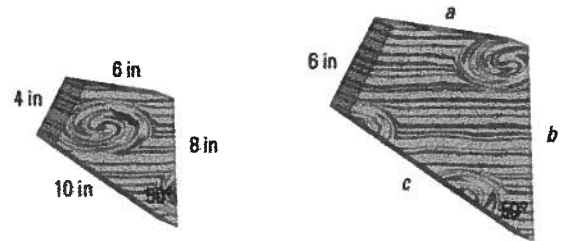
Lauren illustrates "how-to" manuals that show customers how to assemble furniture. One of her co-workers went home sick, and she was given the following diagram of a triangular shelf and told to redesign it. The triangular face of the new shelf has one side length of 60 cm and is defined as a similar triangle.

Now Lauren has to figure out the dimensions of the rest of the triangle. She needs to figure out what scale factor her co-worker used. Is there more than one triangle possible?



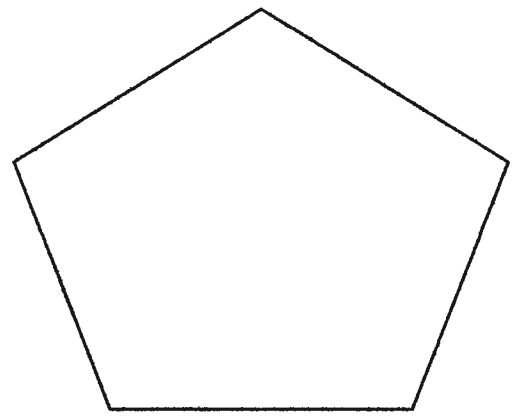
**Example 3**

Determine what scale factor was used to create the larger piece and use the scale factor to calculate the missing side lengths.



**Example 4**

Use the ratio method to create a pentagon that has been scaled down by a factor of  $\frac{1}{2}$ .



How could you make a shape that is  $\frac{1}{3}$  bigger than the one below.

