SIMILARITY OF TRIANGLES

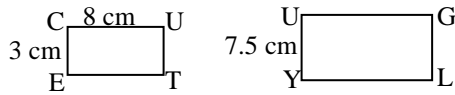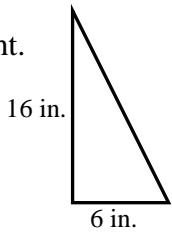### Dilations as Proportions Notes

Ex) Rectangle CUTE was dilated to create rectangle UGLY. Find the length of LY.

C 8 cm U
3 cm
E T

U G
7.5 cm
Y L

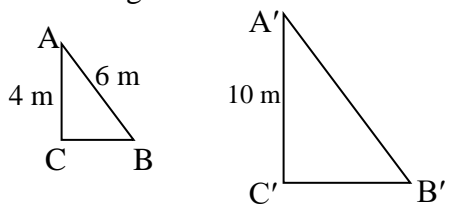**Ex)** Determine which of the following figures could be a dilation of the triangle to the right.
(There could be more than one answer)

A
6 in.
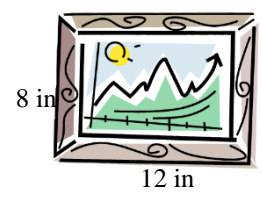2.25 in.

B
20 in.
10 in.

C
8 in.
3 in.

D
30 in.
5 in.

16 in.
6 in.

1. Find the length of $\overline{A'B'}$ after the dilation.

A
4 m   6 m
C   B

A'
10 m
C'   B'

2. Which of the following could **NOT** be an enlargement or
reduction (dilation) of the original painting shown at right?

8 in
12 in

A   4 in
6 in

B   10 in
15 in

C   12 in
18 in

D   9in
13 in

Word Problems:

Write the equation for each and solve. Show all work.

1. Two rectangles are similar. The first is 4 in. wide and 15 in. long. The second is 9 in. wide.

   a) Find the length of the second rectangle.

   b) How do the perimeters of the two rectangles compare? How does this compare to the scale factor?

   c) How do the areas of the two rectangles compare? How does this compare to the scale factor?

2. Two triangles are similar. The first has a base of 12 in. and a height of 8 in. The second has a base of 30 inches.

   a) Find the height of the triangle.

   b) How do the areas of the two triangles compare? How does this compare to the scale factor?

3) A girl 160 cm tall, stands 360 cm from a lamp post at night. Her shadow from the light is 90 cm long. How high is the lamp post?

160 cm

90 cm   360 cm