

Test review on Stretching and Shrinking

1. The dimensions of six rectangles are given below.

Rectangle	Width	Height
A	6	8
B	$9\frac{1}{3}$	$11\frac{2}{3}$
C	16	20
D	24	32
E	10	12.5
F	14	35

- a. Sort the rectangles into sets of similar rectangles. Tell which rectangles are in each set.
- b. Explain how you decided which rectangles were similar.

1. Triangles A and B are similar. The side lengths of triangle A are two times the side length of triangle B. In a and b **illustrate** your answer by making a drawing.

a. How many copies of triangle B will exactly fit into triangle A? _____

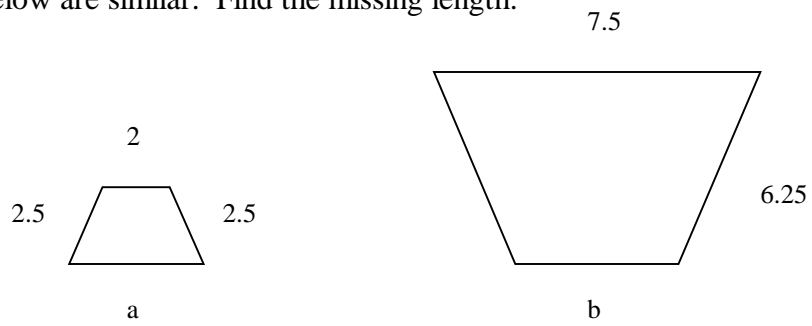
b. How many times greater is the perimeter of triangle A than the perimeter of triangle B? _____

2. Carmen is using a photo enlargement machine. She has a 4x5 in. photo she wants to enlarge. The machine will enlarge in four sizes. 5x7, 7x10, 12x15, and 16x24. When Carmen tries to enlarge her photo to a couple of the sizes, the photo is not exactly similar-that is, some parts of the photo are cut off.

a. If Carmen wants an enlargement that is similar to her original, what size(s) could she choose for the machine to make? Explain your answer.

b. The cost of photos and their enlargements are based on the amount of photographic paper used. Carmen paid \$.40 for her 4x5 photo. How much would the enlarged photo(s) cost for the size(s) you gave in part a?

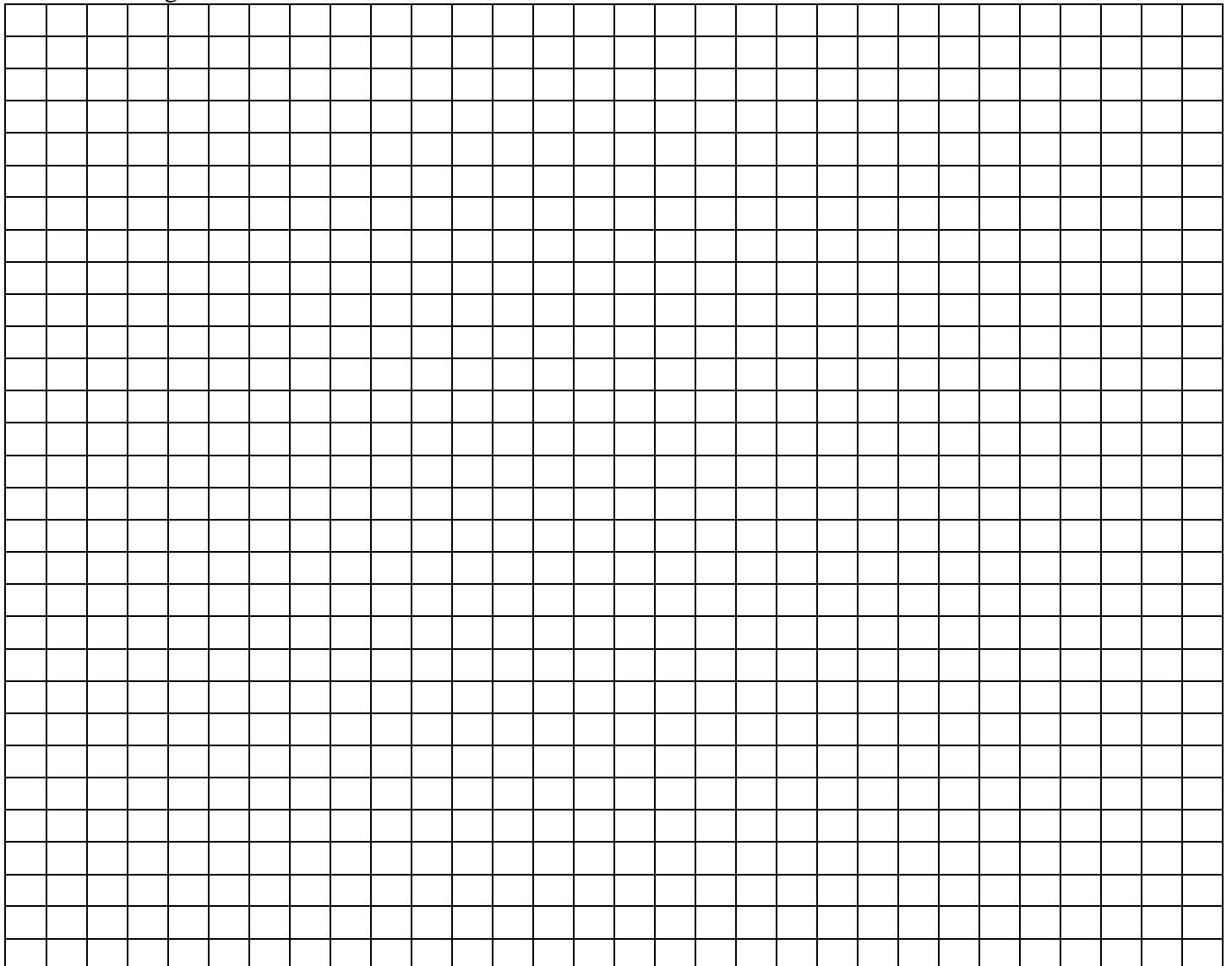
4. The two figures below are similar. Find the missing length.



a = _____

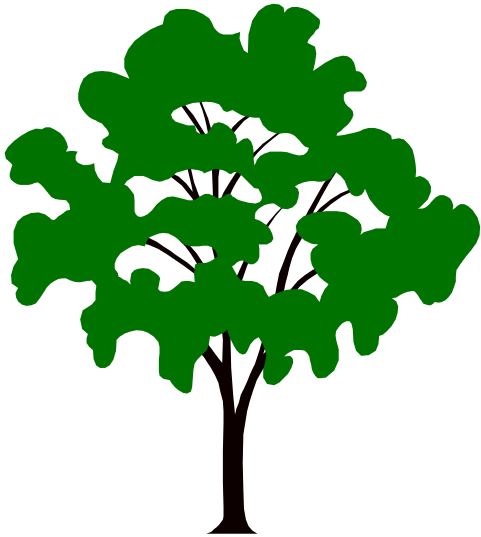
b = _____

5. Draw two similar rectangles on the grid below. Label your small rectangle A and your large rectangle B.



- b. How do you know your rectangles are similar?
- c. What is the scale factor from rectangle A to rectangle B?
- d. How does the area of rectangle A compare to rectangle B?

6. Mr. Dick's neighbor wants to cut down a dead tree that is in his yard. Mr. Dick is worried that when the tree is cut, it will fall on his house, which is 58 feet from the tree. His neighbor decided to measure the height of the tree by using its shadow. The tree's shadow measured 70 feet. Mr. Dick put a yardstick next to the tree and the yardstick cast a shadow of 4 feet.



- a. How tall is the tree?
- b. Will the tree hit Mr. Dick's house if it falls the wrong way? Explain.