

Name _____

Date _____

Similar Figures

Similar figures have the same shape but can be of different sizes.

Two figures are similar if:

- their corresponding angles are congruent
- their corresponding sides are proportional

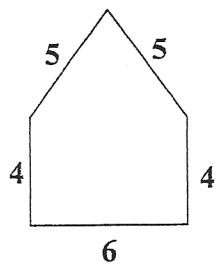
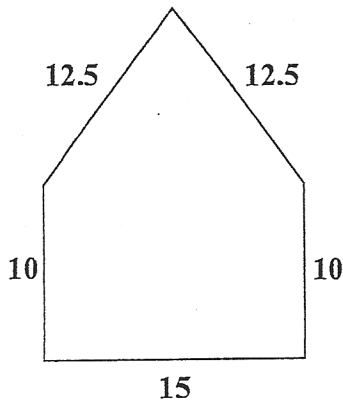
Part I:

Identify which of the following pairs of figures are similar. Circle the correct answer. (not necessarily drawn to scale)

1.

similar

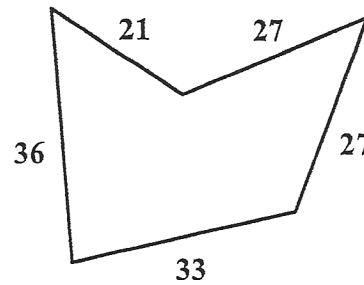
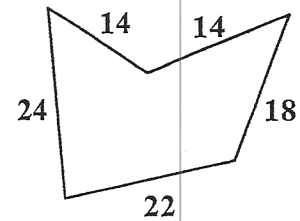
not similar



2.

similar

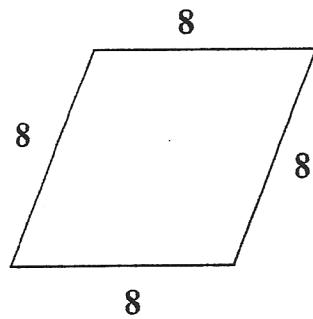
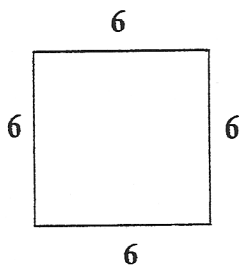
not similar



3.

not similar

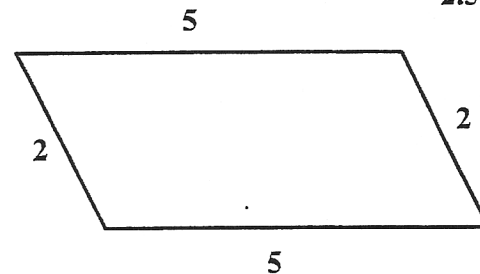
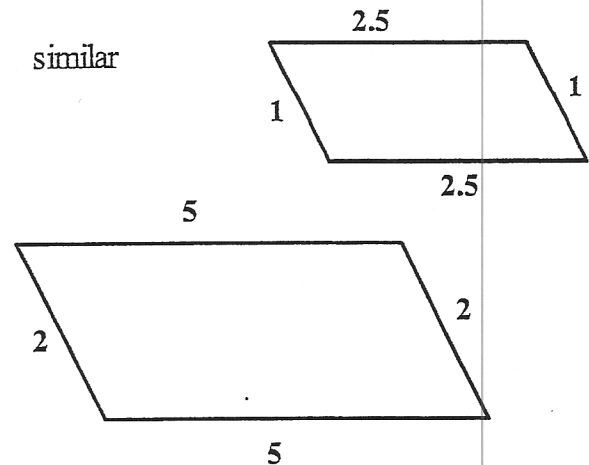
similar



4.

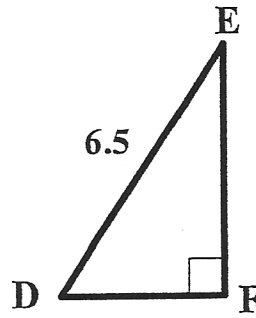
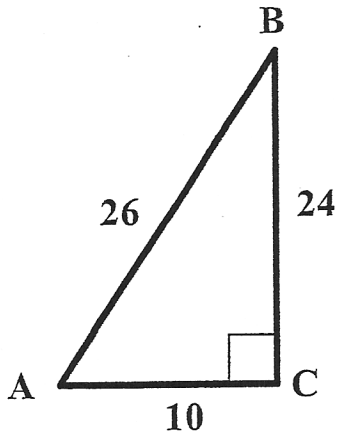
not similar

similar



Part II:

$\triangle ABC$ and $\triangle DEF$ are similar triangles



1. List all the pairs of corresponding sides

2. List the pairs of congruent angles

3. What is the length of side DF?
Write out a proportion and solve it.

4. What is the length of side EF?
Write out a proportion and solve it.

5. a. Find the area of $\triangle ABC$.

6. a. What is the ratio of the length of any side of $\triangle ABC$ to the length of its corresponding side of $\triangle DEF$?

b. Find the area of $\triangle DEF$.

b. What is the ratio of the area of $\triangle ABC$ to the area of $\triangle DEF$?

Part III:

For each of the following, answer the question.

If the answer is yes, explain why. If the answer is no, give a counter example.

1. Are any two right triangles similar?
2. Are any two isosceles triangles similar?
3. Are any two equilateral triangles similar?
4. Are any two squares similar?
5. Are any two rectangles similar?
6. Are any two regular polygons with the same number of sides similar?