



May 2000

Activity 2: Tangrams and Fractions

Make Your Own Tangram:

Materials Needed:

- One piece of square construction paper per student 6 in. (15 cm) x 6 in. (15cm)
- One pair of scissors per student.

Read the following directions aloud:

1. Fold the large square in half diagonally.

Cut on the fold. You should have two large congruent triangles.

2. Take one of the triangles. Fold the triangle in half diagonally (see Figure 1) to form two triangles. Save these two pieces.

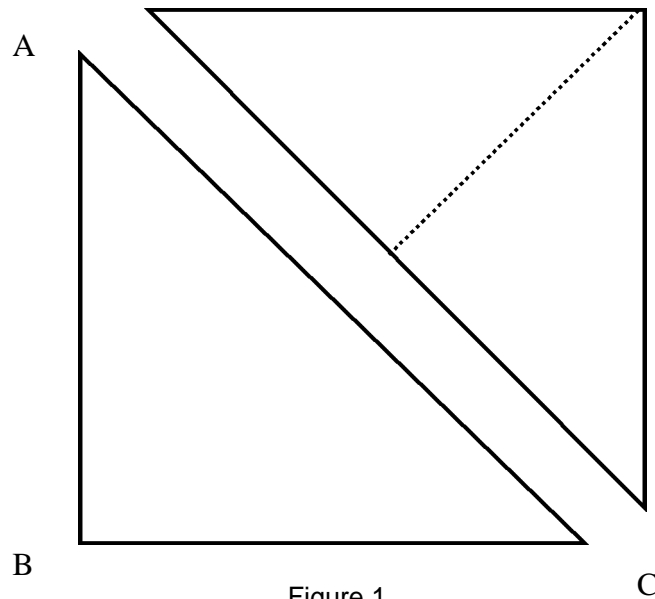


Figure 1.

3. Take the other large triangle (from step #1). Take Triangle ABC and fold point B to the midpoint of AC. Cut off the triangle formed (see Figure 2). Save this triangular piece.

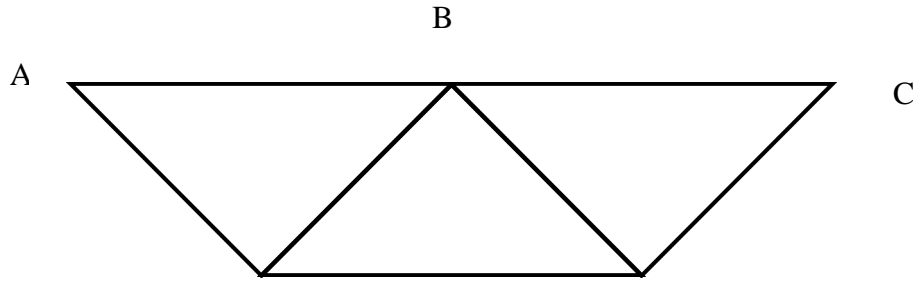


Figure 2.

4. The remaining shape from triangle ABC is a trapezoid (see Figure 3). Fold this figure in half. The remaining figure looks like Figure 4.

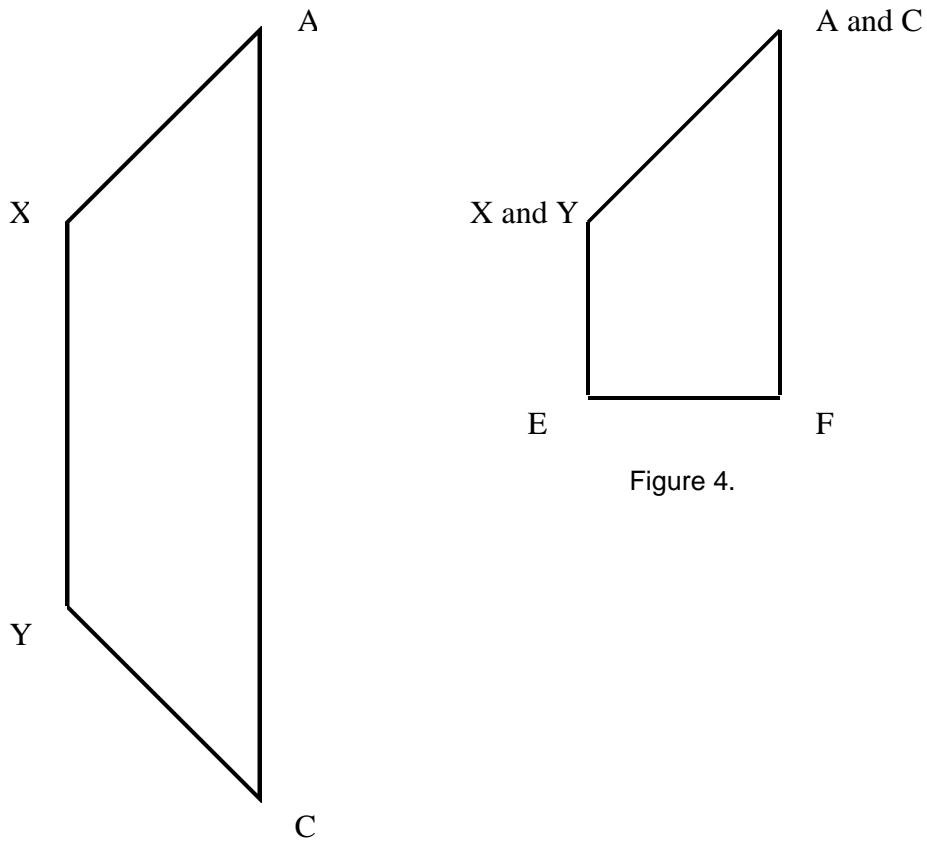


Figure 3.

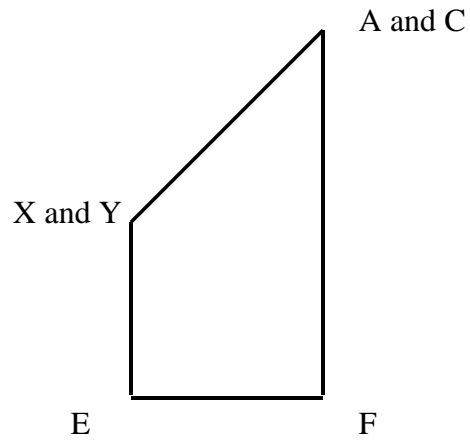


Figure 4.

5. Unfold, and fold C to F (see Figure 5).

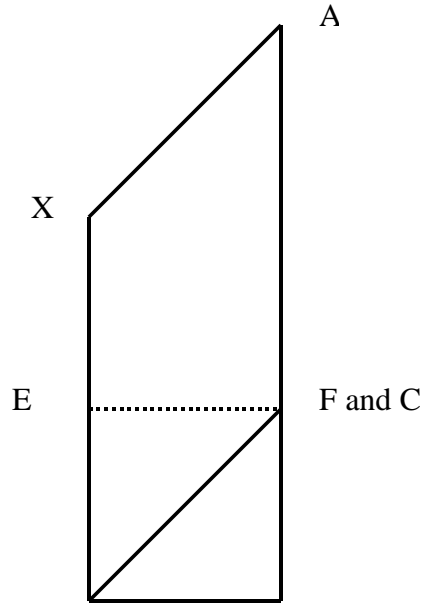


Figure 5.

6. Unfold and fold X down to F (see Figure 6).

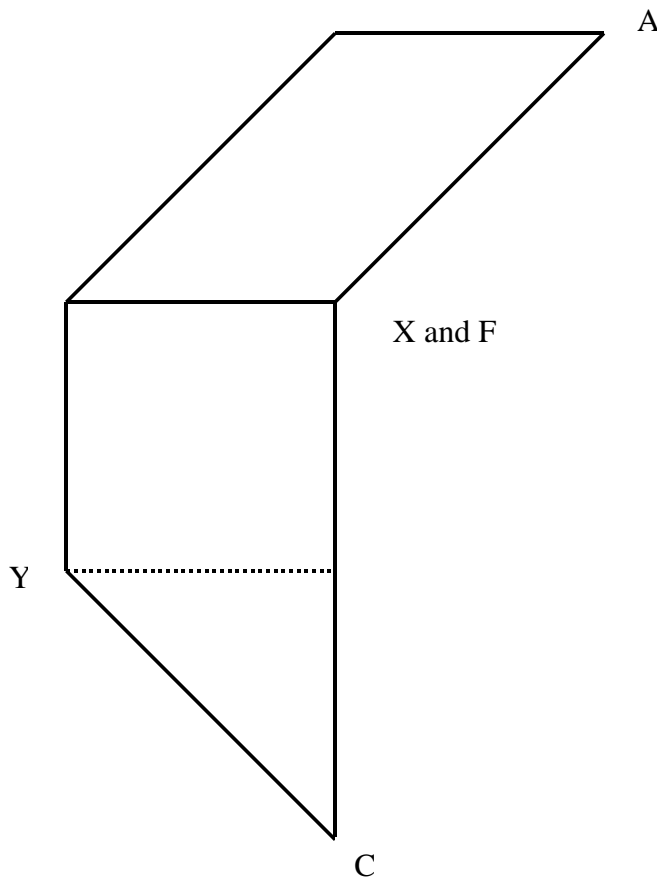
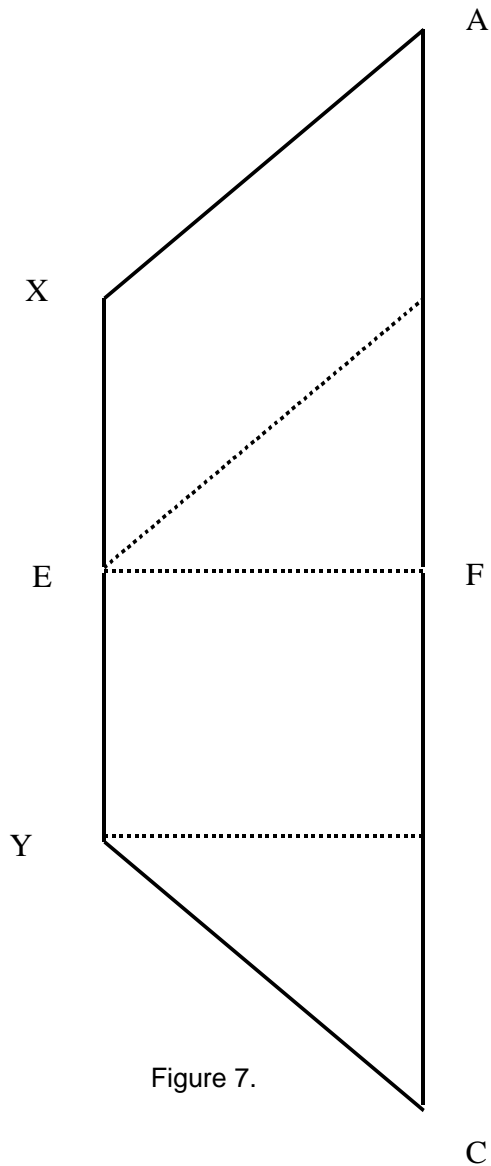


Figure 6

7. The shape now has three folds in it (see Figure 7). Cut on the folds and save the four shapes. The pieces formed are two triangles, one square, and one parallelogram.



Questions:

1. Name the seven shapes that have been formed. Use geometric terms to describe each shape.
2. Are any of the shapes congruent?

Put the tangram pieces together to form the same square piece you started with (see Figure 8).

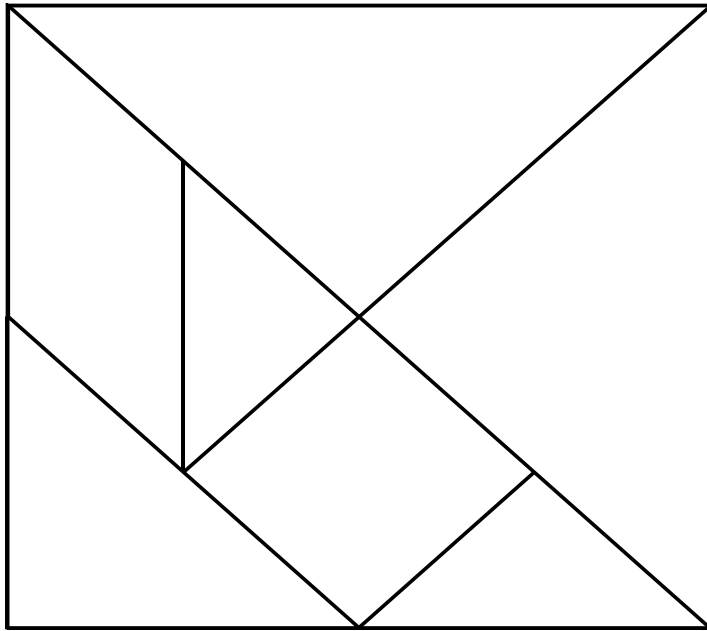


Figure 8.

Fraction your Tangram:

1. Find the fractional value of each of the tangram pieces. Assume that the value of the original square is 1.

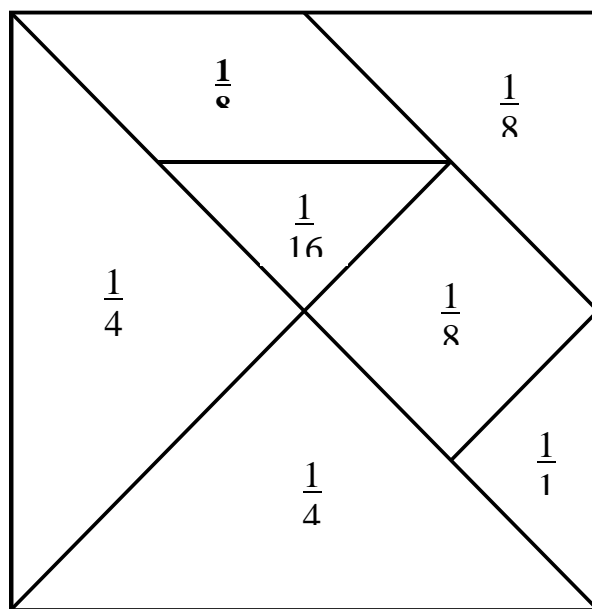


Figure 9

2. Use Student Worksheet #1 – Fractions on the Tangram to introduce the comparison of fractions.