

Tangram Construction Conversations (Depending on student level)

First Step:

- Why do we say we are “squaring” the paper? How do you know you are making a square?
- What is the difference between a diagonal and an oblique line?

Second Step:

- What is symmetry? What is reflective symmetry? What is rotational symmetry?
- What kind of triangles are formed?
- If the square is one square unit, what is the area of each triangle?
- What is a hypotenuse?
- Why is a right angle called a right angle?

Third Step

- What is a median?
- What is an altitude?
- What is the relationship between this triangle and the big triangle? (similar vs. congruent)
- What would the area of these triangles be?

Fourth step:

- What is a midsegment?
- What type of triangle is being formed?
- What is this triangle’s relationship to the original triangle and to the other triangles?
- What is the area of this triangle?
- What are parallel lines? What is the length of the midsegment relative to the hypotenuse of the original triangle?
- What is a trapezoid? What is a trapezium? What type of trapezoid is formed?

Fifth step:

- How many lines of symmetry does the trapezoid have?
- Can you use the small triangle to make a rectangle?
- How do you know you’ve made a square?
- What is the area of those pieces?

Sixth step:

- What is a parallelogram?
- Does the parallelogram have a line of (reflective) symmetry?
- What is the area of all the pieces?

The hardest question of all:

Can you put the pieces back together to make a square?

If they can make the square, they can move a piece to make a right triangle and then another piece to make a rectangle.