## Unit 4 Lesson 3: Half an Equilateral Triangle

### 1 Notice and Wonder: Triangle Slices (Warm up)

#### Student Task Statement

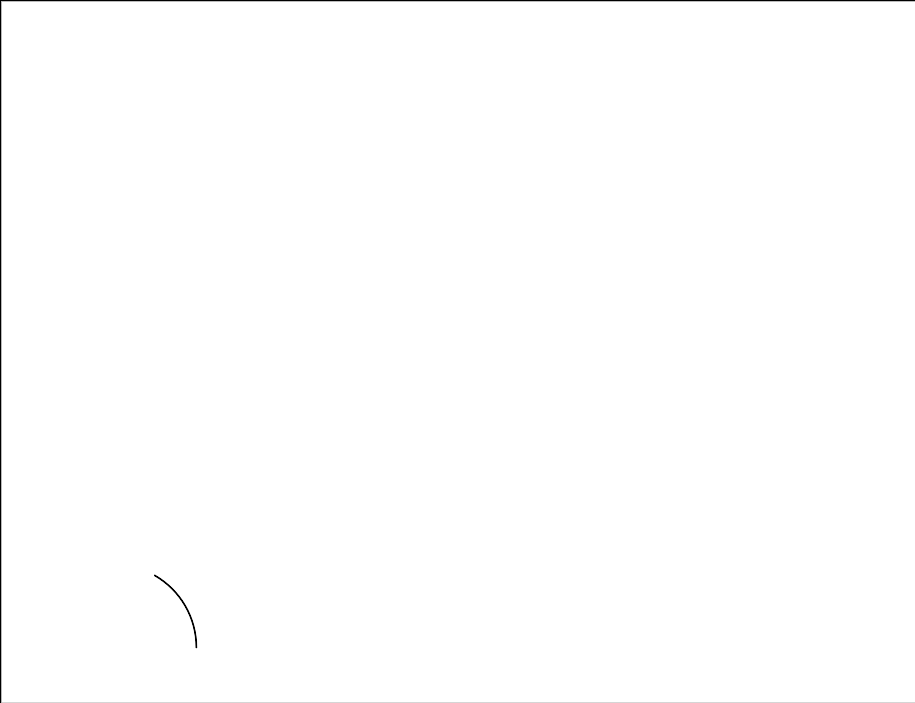
Sketch an equilateral triangle and an altitude from any vertex in the equilateral triangle.

What do you notice? What do you wonder?

### 2 Decomposing Equilateral Triangles (Optional)

#### Student Task Statement

1. Here is an equilateral triangle with side length 2 units and an altitude drawn. Find the values of and .

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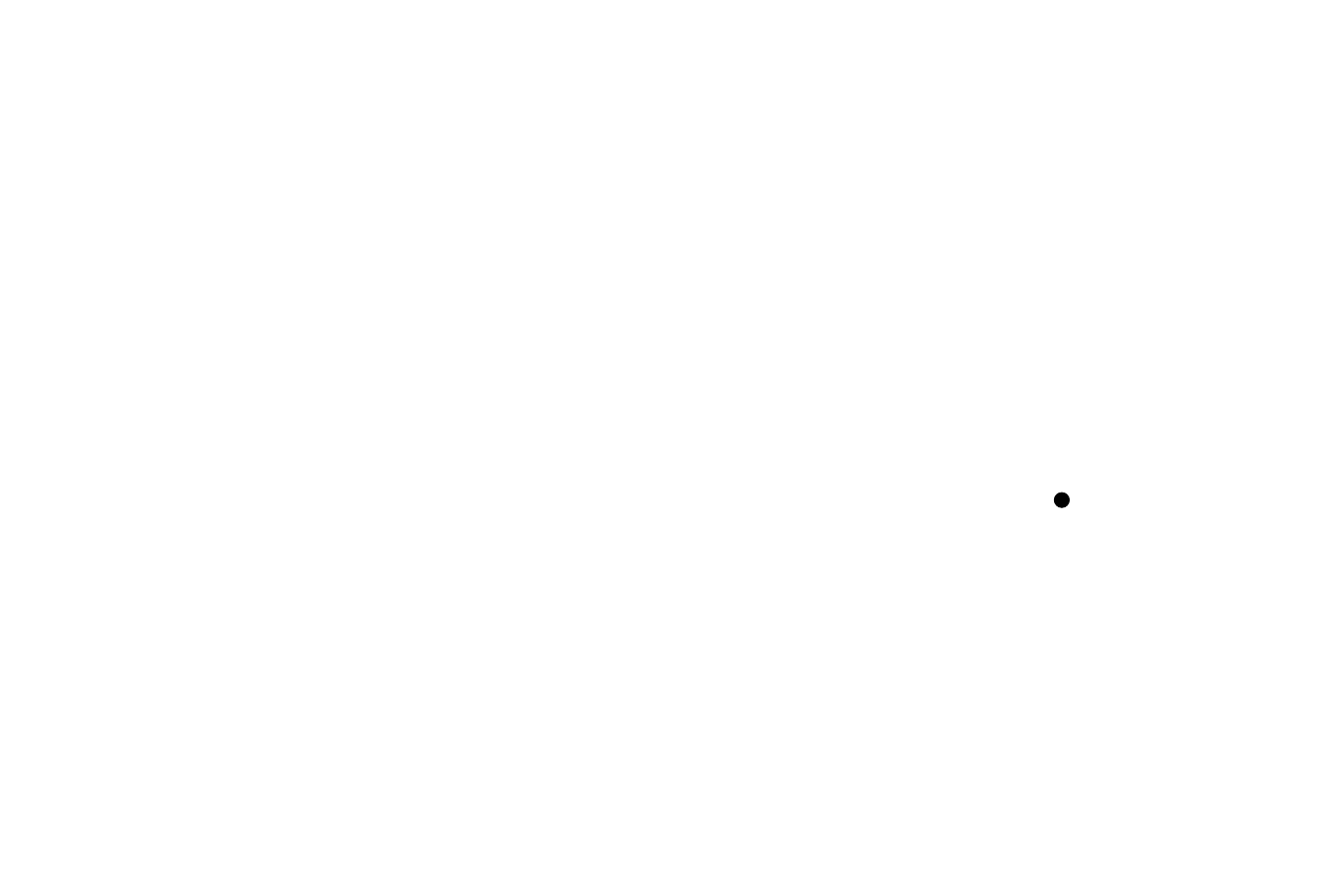
1. Measure several more of these “half equilateral triangles” by drawing equilateral triangles and altitudes. Compute the ratios of the side lengths of these new triangles.
2. Make a conjecture about side lengths in “half equilateral triangles.”

#### Activity Synthesis



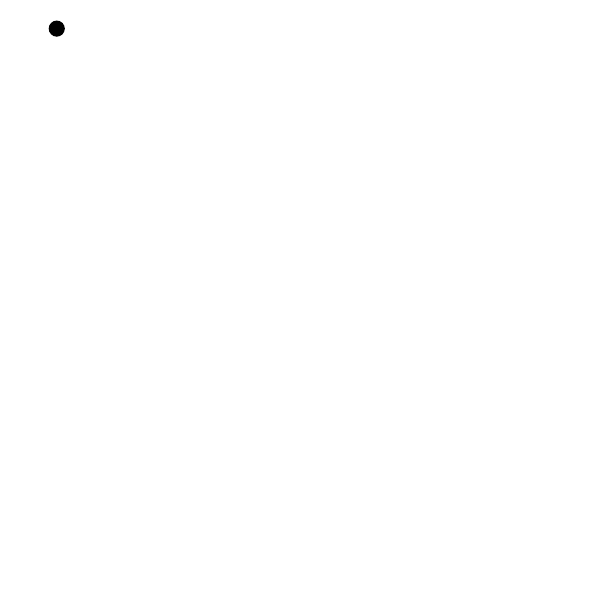
### 3 Generalize Half Equilateral Triangles (Optional)

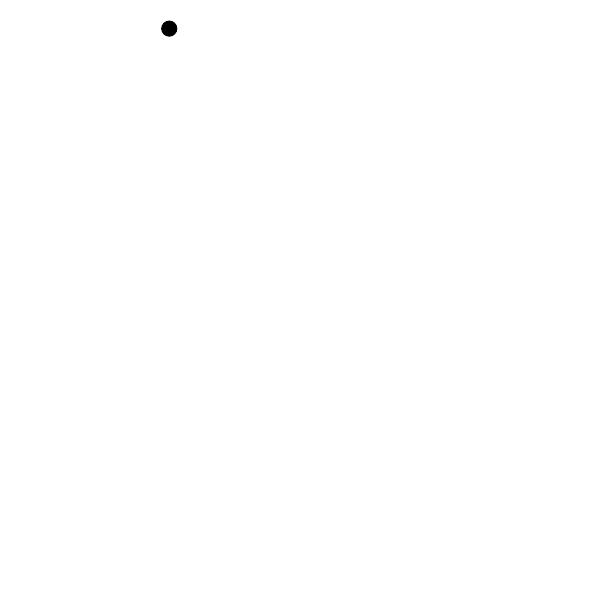
#### Student Task Statement



Calculate the lengths of the 5 unlabeled sides.

#### Images for Activity Synthesis







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