## Unit 4 Lesson 2: Half a Square

### 1 Diagonals of Rectangles (Warm up)

#### Student Task Statement





 Calculate the values of $x$ and $y$.

### 2 Decomposing Squares (Optional)

#### Student Task Statement

1. Draw a square with side lengths of 1 cm. Estimate the length of the diagonal. Then calculate the length of the diagonal.
2. Measure the side length and diagonal length of several squares, in centimeters. Compute the ratio of side to diagonal length for each.
3. Make a conjecture.

### 3 Generalize Half Squares (Optional)

#### Student Task Statement







Calculate the lengths of the 5 unlabeled sides.

#### Images for Activity Synthesis





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