



## Investigation 1

### What Is the Shortest Path from A to B?

**You will need**

- a compass
- a straightedge

Each person in your group should do each construction. Compare results when you finish.

Step 1

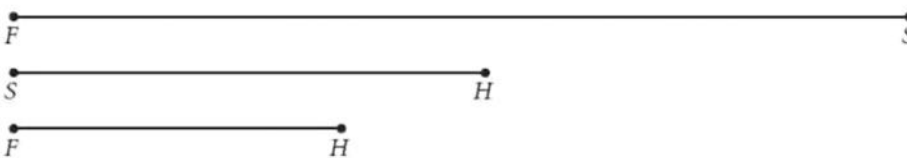
Construct a triangle with each set of segments as sides.

**Given:**



**Construct:**  $\triangle CAT$

**Given:**



**Construct:**  $\triangle FSH$

Step 2

You should have been able to construct  $\triangle CAT$ , but not  $\triangle FSH$ . Why? Discuss your results with others. State your observations as your next conjecture.

### Triangle Inequality Conjecture

C-20

The sum of the lengths of any two sides of a triangle is ? the length of the third side.