## Unit 1 Lesson 20: Transformations, Transversals, and Proof

### 1 Math Talk: Angle Relationships (Warm up)

#### Student Task Statement

Lines and are parallel. Mentally evaluate the measure in each figure.

Figure A

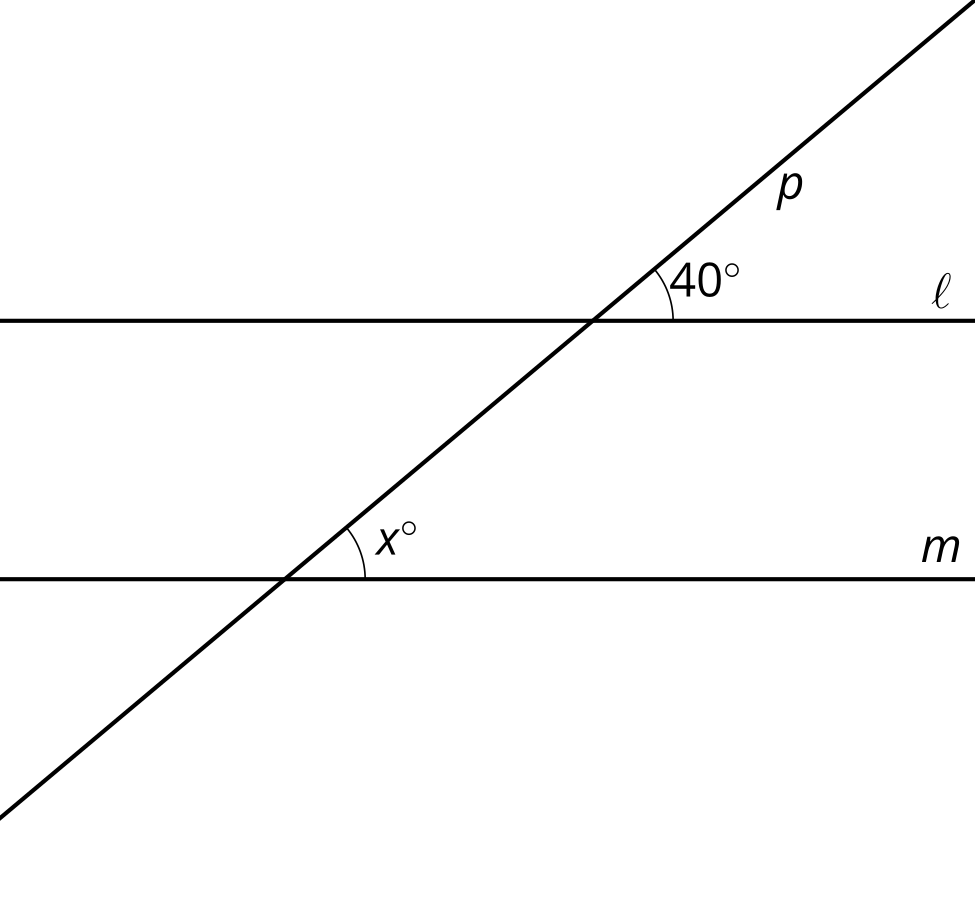


Figure B

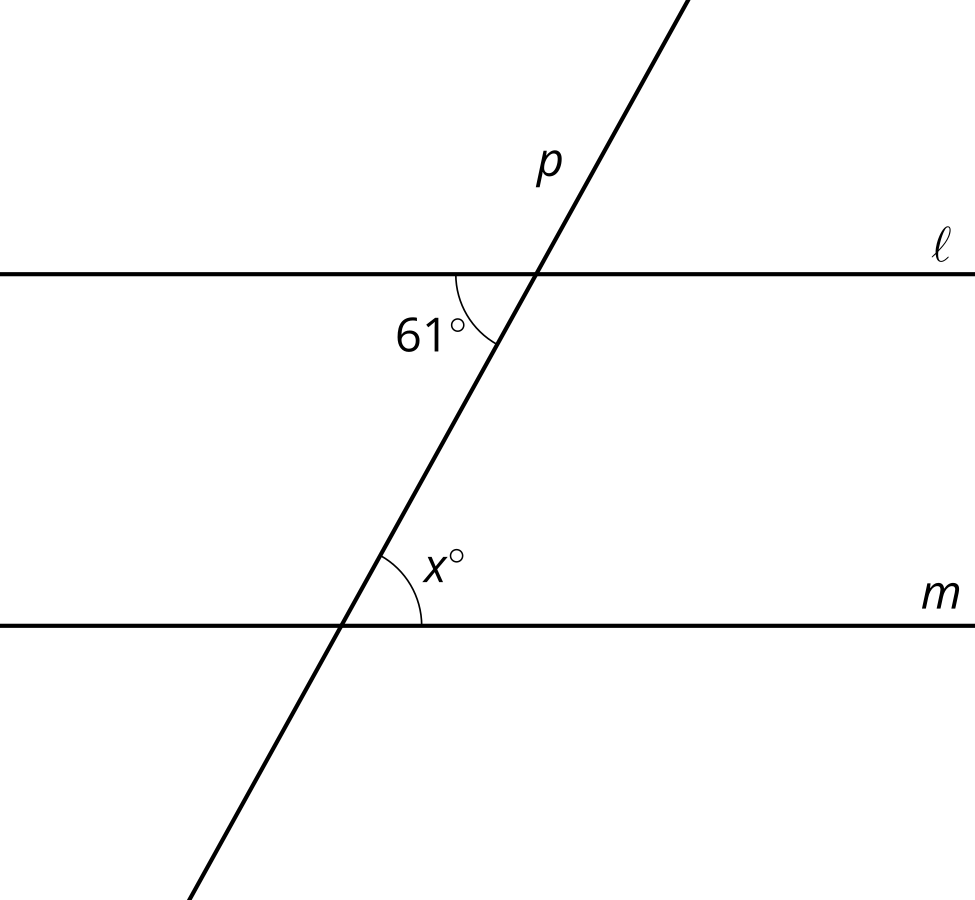


Figure C

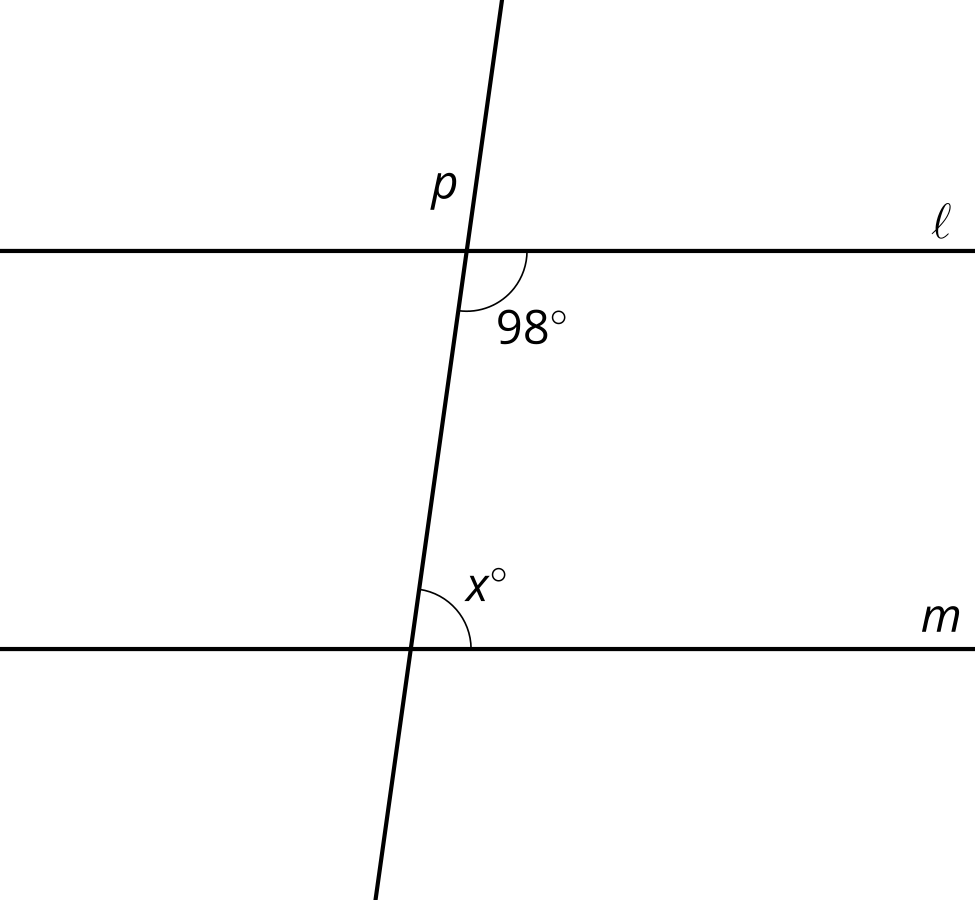
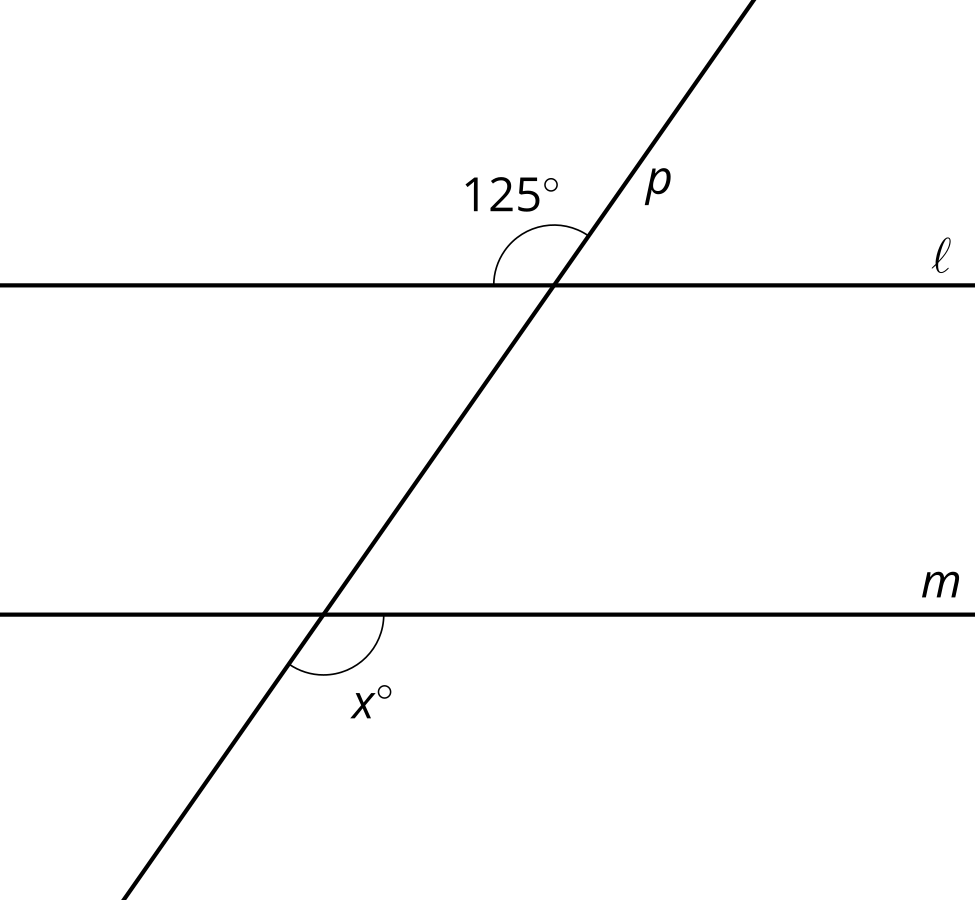


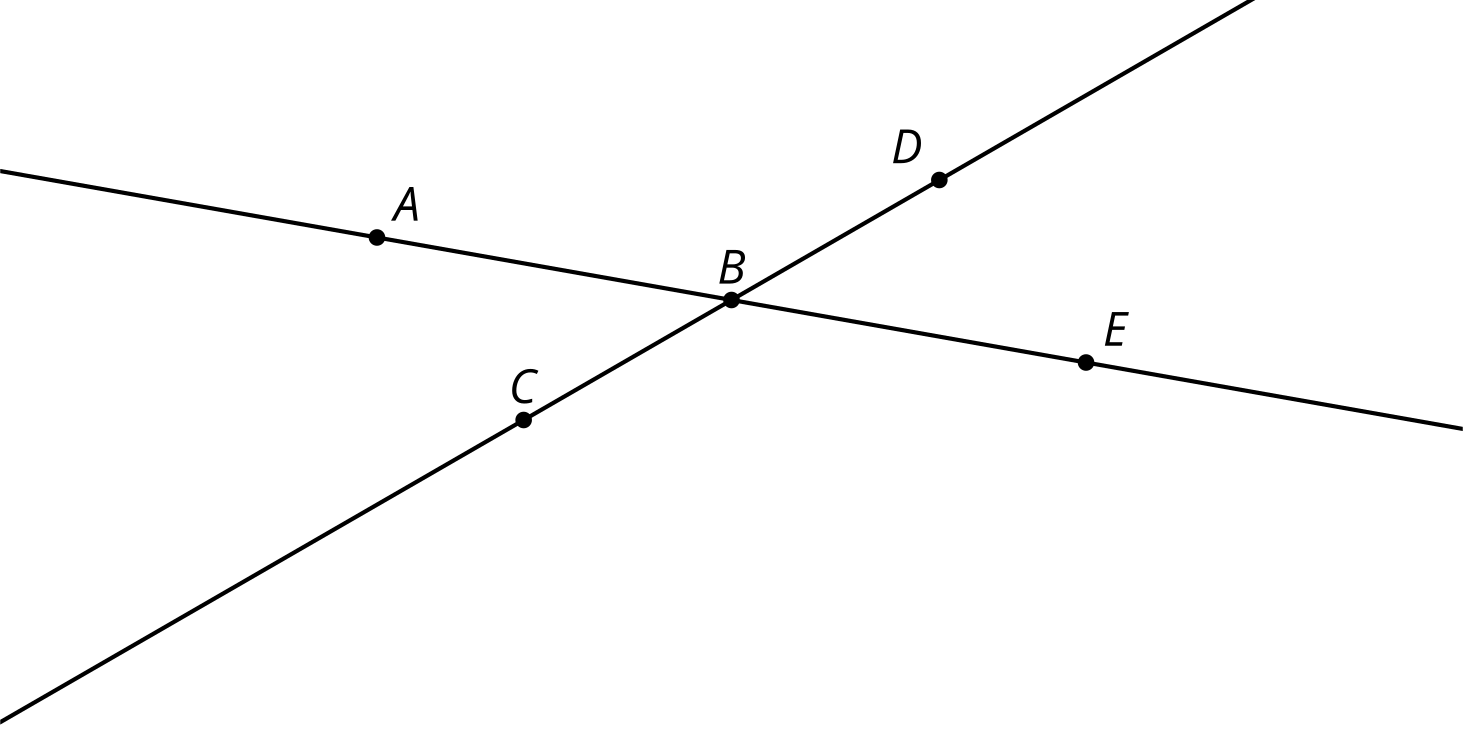
Figure D



### 2 Make a Mark? Give a Reason.

#### Student Task Statement

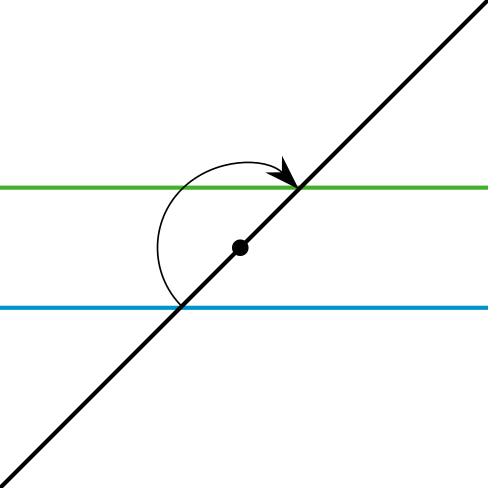
Here are intersecting lines and :



1. Translate lines  and  by the directed line segment from to . Label the images of as .
2. What is true about lines and ? Explain your reasoning.
3. Take turns with your partner to identify congruent angles.
   1. For each pair of congruent angles that you find, explain to your partner how you know the angles are congruent.
   2. For each match that your partner finds, listen carefully to their explanation. If you disagree, discuss your thinking and work to reach an agreement.

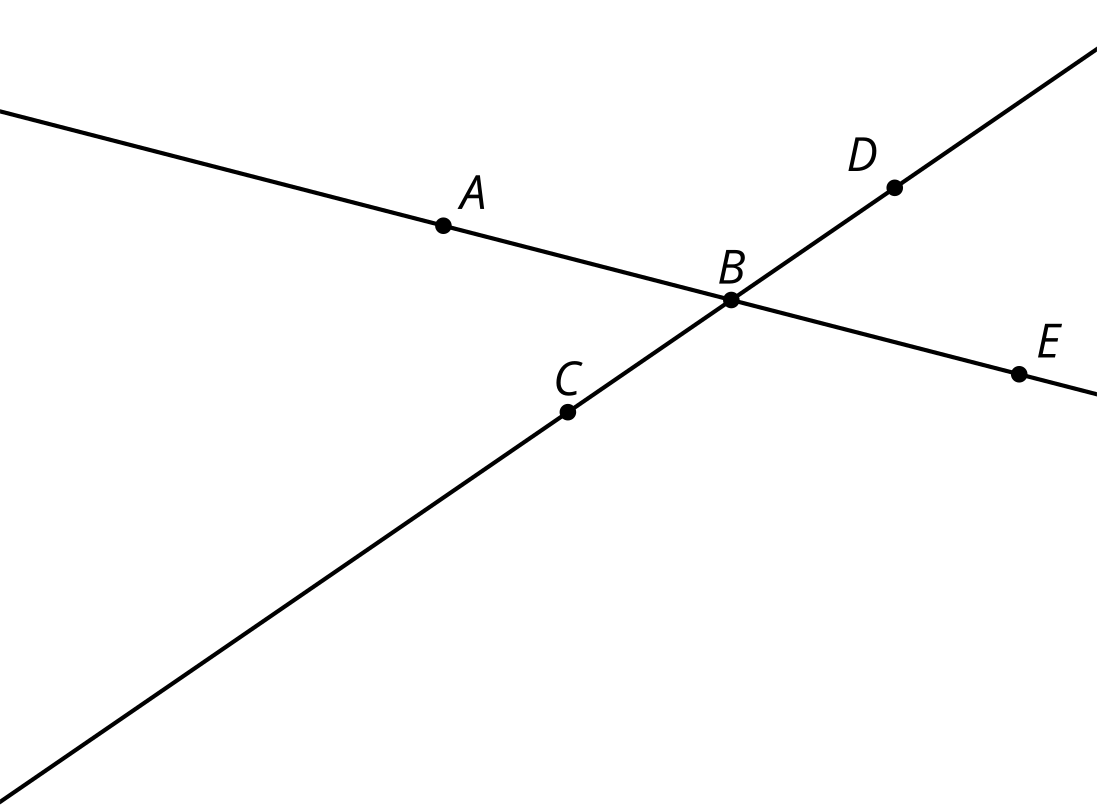
### 3 An Alternate Explanation

#### Images for Launch



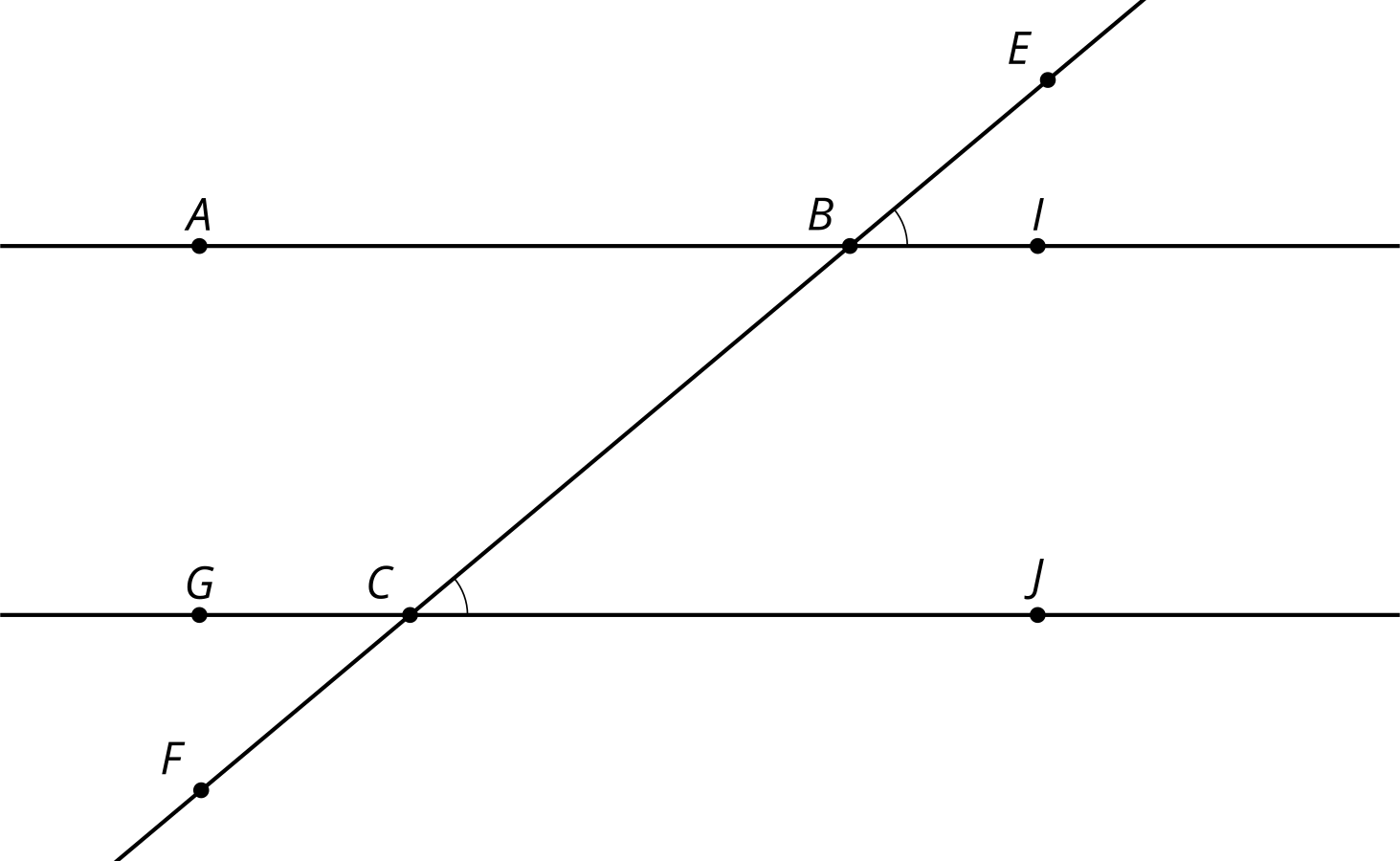
#### Student Task Statement

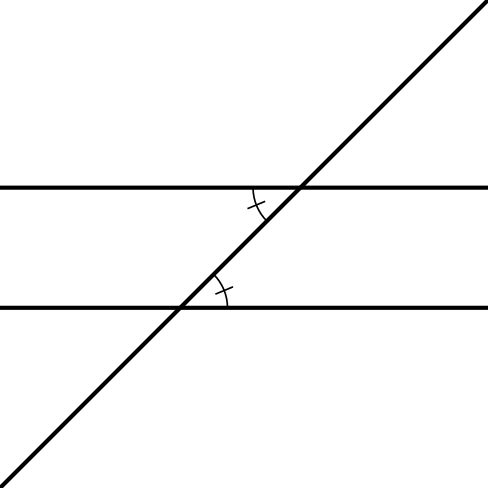
Here are intersecting lines and :

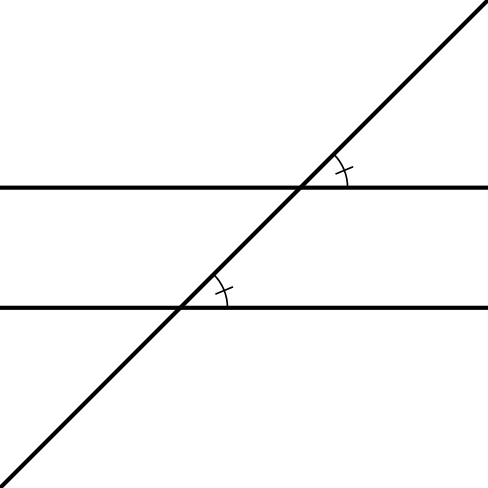


1. Rotate line by 180 degrees around point . Label the images of as .
2. What is true about lines and ? Explain your reasoning.
3. Take turns with your partner to identify congruent angles.
   1. For each pair of congruent angles that you find, explain to your partner how you know the angles are congruent.
   2. For each match that your partner finds, listen carefully to their explanation. If you disagree, discuss your thinking and work to reach an agreement.

#### Images for Activity Synthesis









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