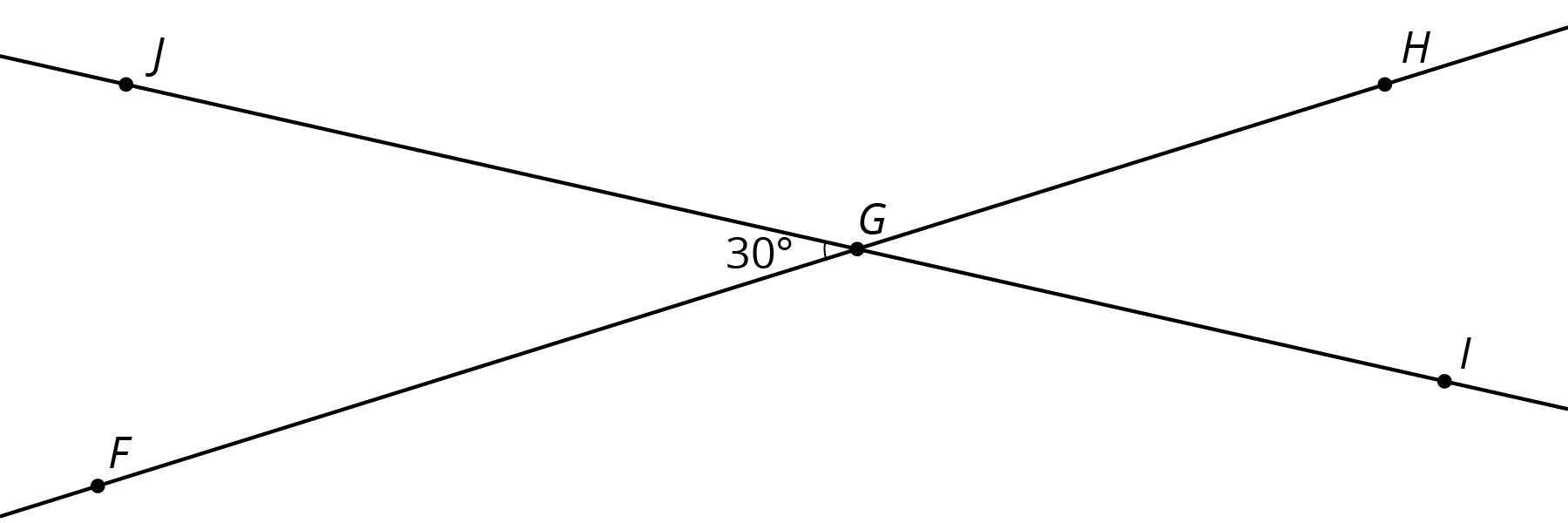
## Unit 1 Lesson 14: Alternate Interior Angles

### 1 Angle Pairs (Warm up)

#### Student Task Statement

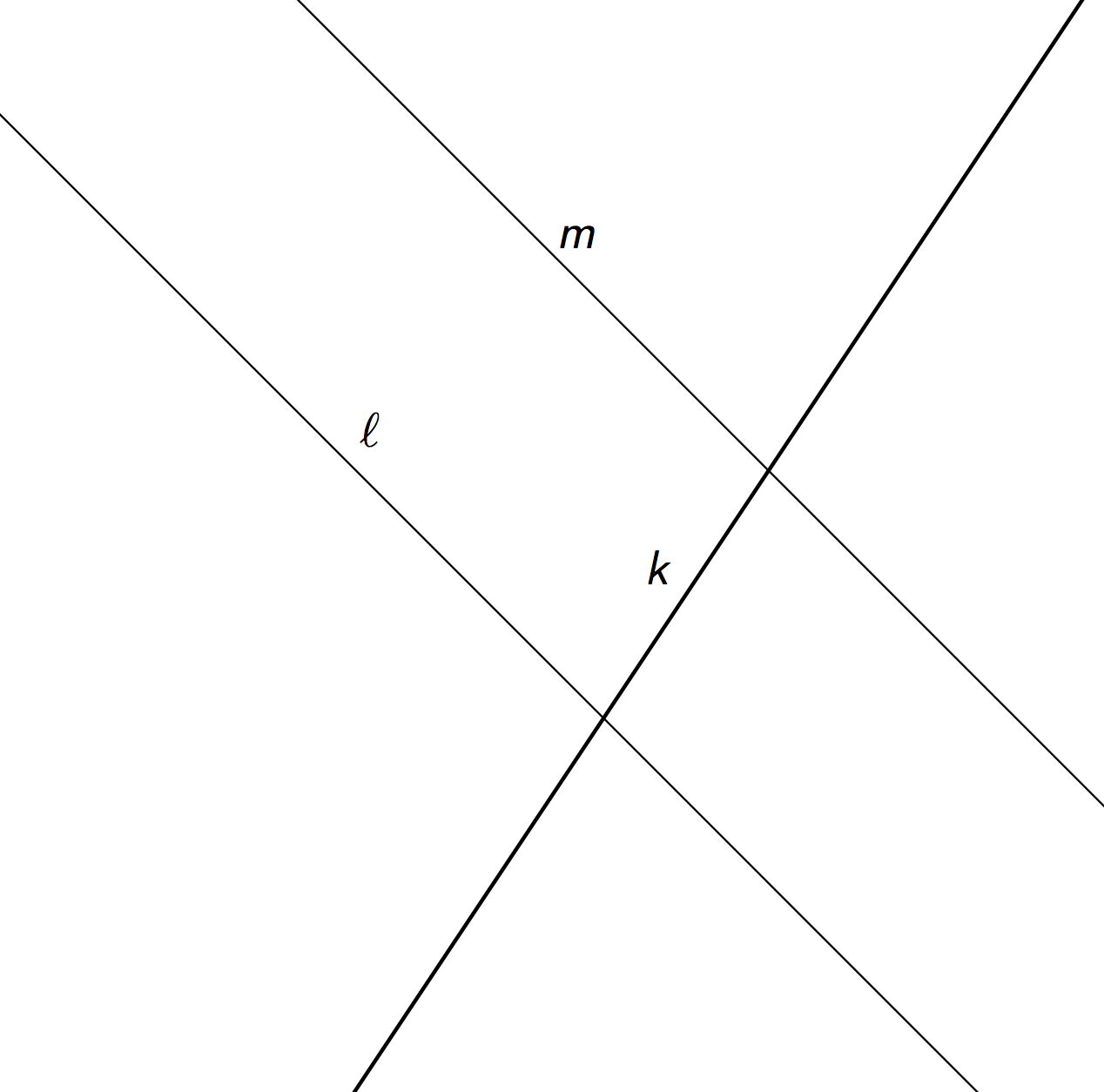
1. Find the measure of angle .  Explain or show your reasoning.

* 

1. Find and label a second degree angle in the diagram. Find and label an angle congruent to angle .

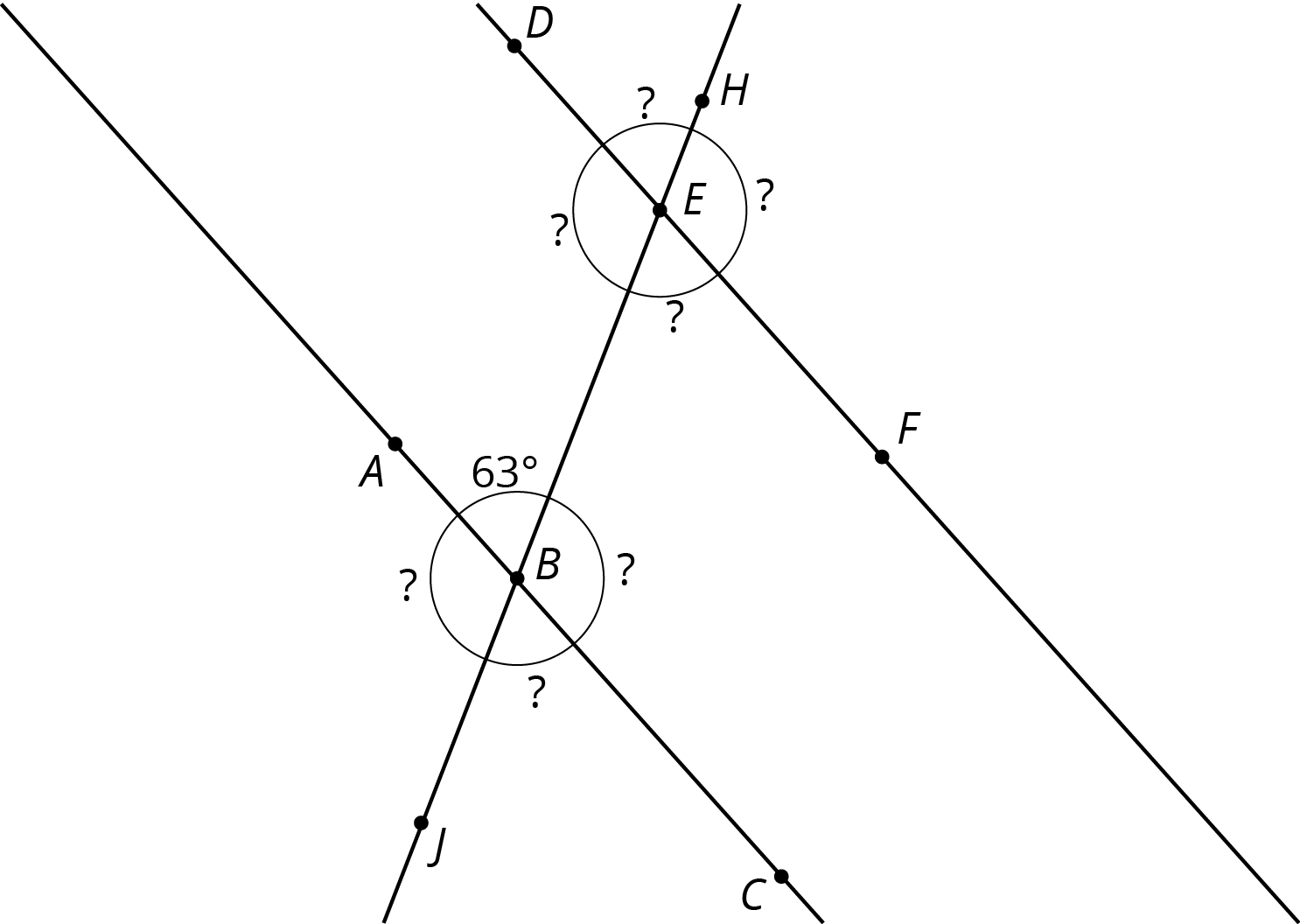
### 2 Cutting Parallel Lines with a Transversal

#### Images for Launch

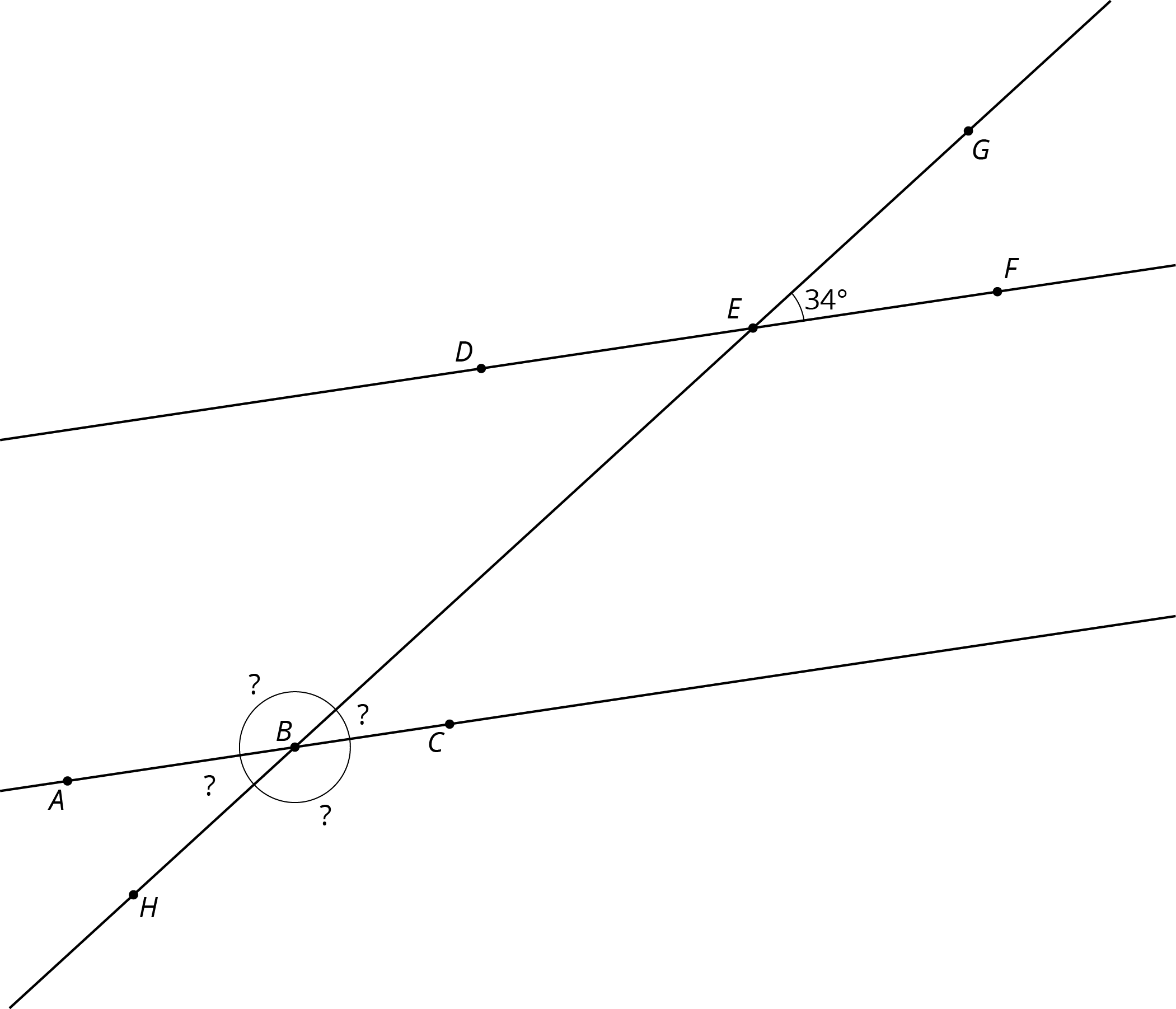


#### Student Task Statement

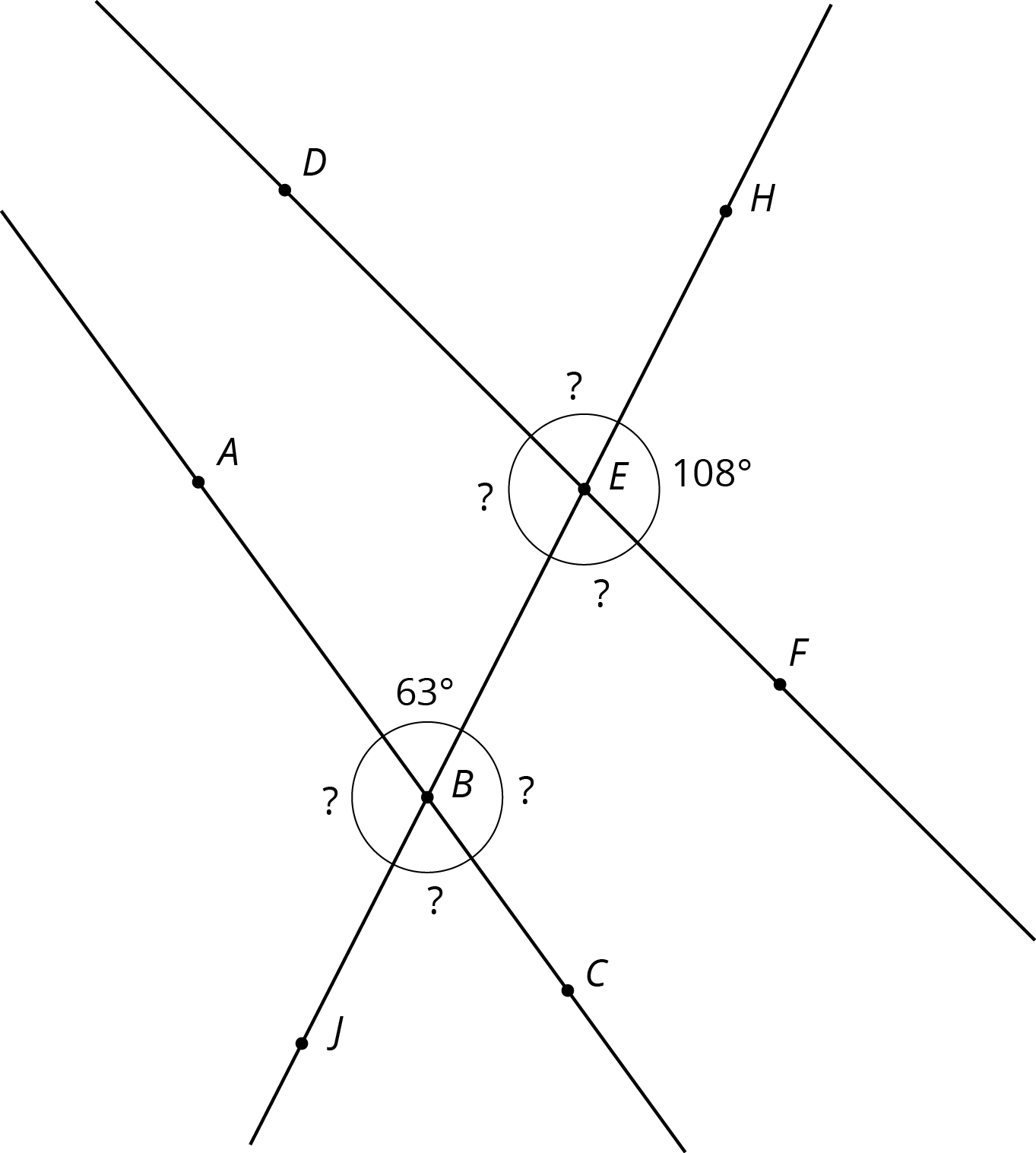
Lines and are parallel. They are cut by **transversal** .



1. With your partner, find the seven unknown angle measures in the diagram. Explain your reasoning.
2. What do you notice about the angles with vertex  and the angles with vertex ?
3. Using what you noticed, find the measures of the four angles at point in the second diagram. Lines and are parallel.

* 

1. The next diagram resembles the first one, but the lines form slightly different angles. Work with your partner to find the six unknown angles with vertices at points and .

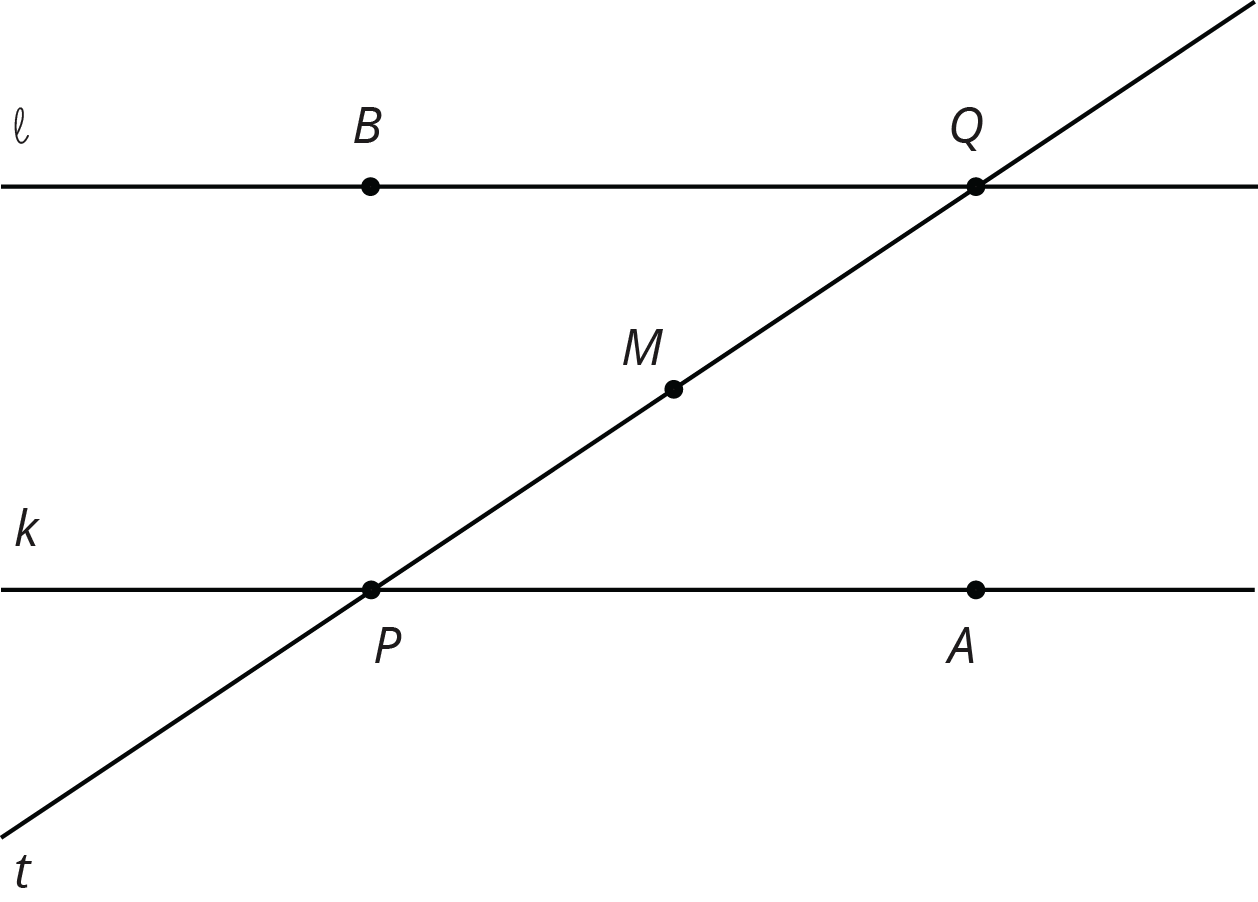
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1. What do you notice about the angles in this diagram as compared to the earlier diagram? How are the two diagrams different? How are they the same?

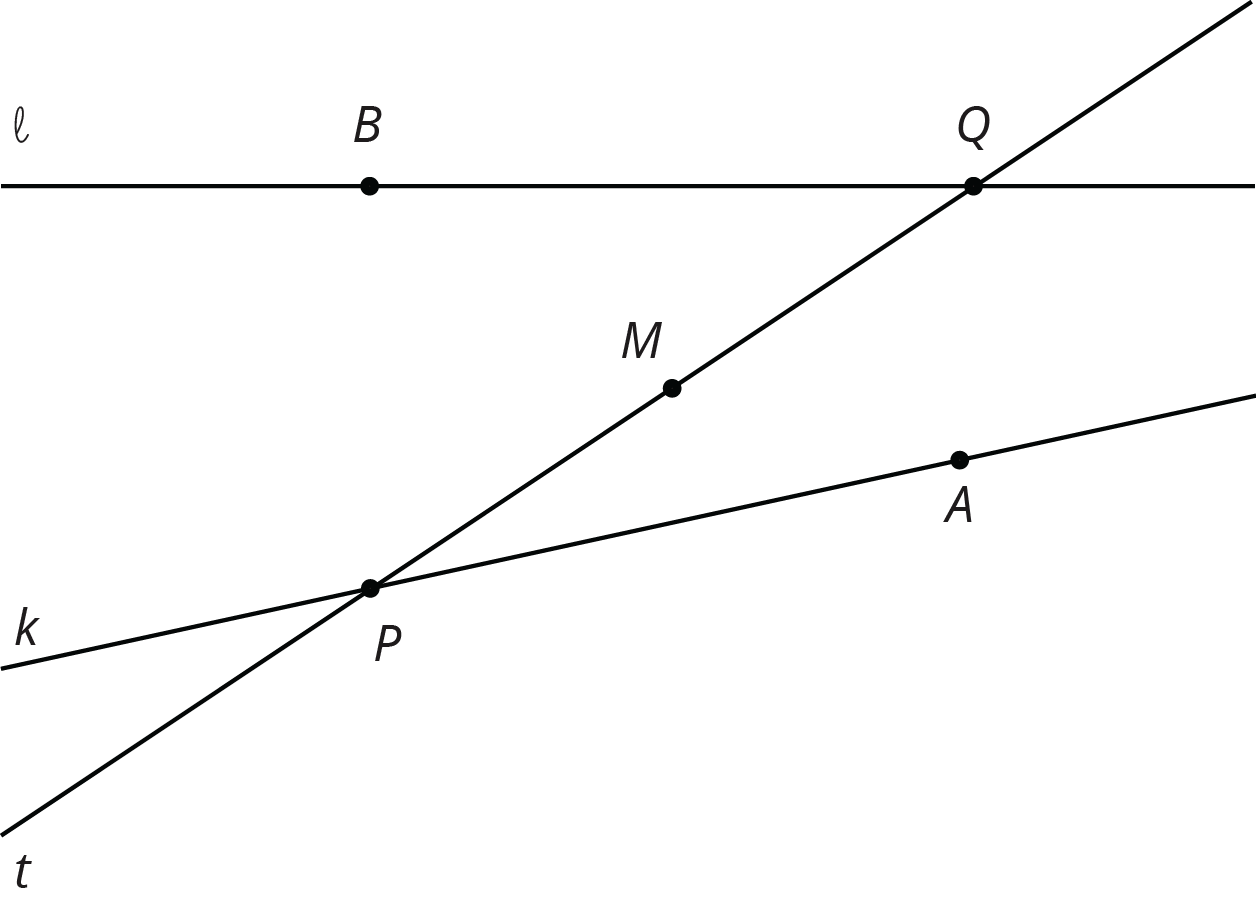
### 3 Alternate Interior Angles Are Congruent

#### Student Task Statement

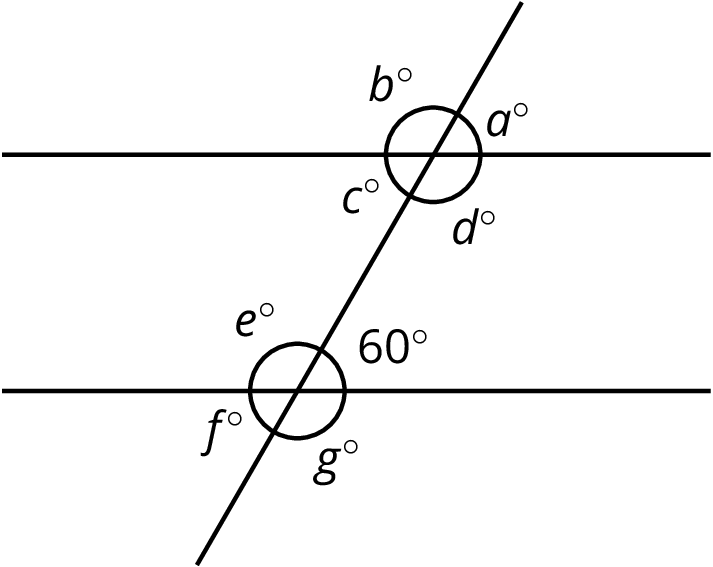
1. Lines and are parallel and is a transversal. Point is the midpoint of segment .

* 
* Find a rigid transformation showing that angles and are congruent.

1. In this picture, lines and are no longer parallel. is still the midpoint of segment .

* 
* Does your argument in the earlier problem apply in this situation? Explain.

#### Images for Activity Synthesis





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