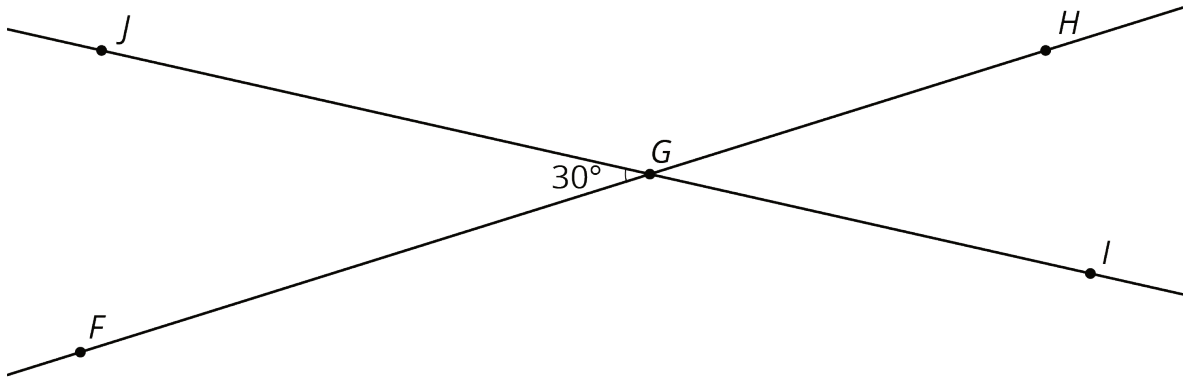


Unit 1 Lesson 14: Alternate Interior Angles

1 Angle Pairs (Warm up)

Student Task Statement

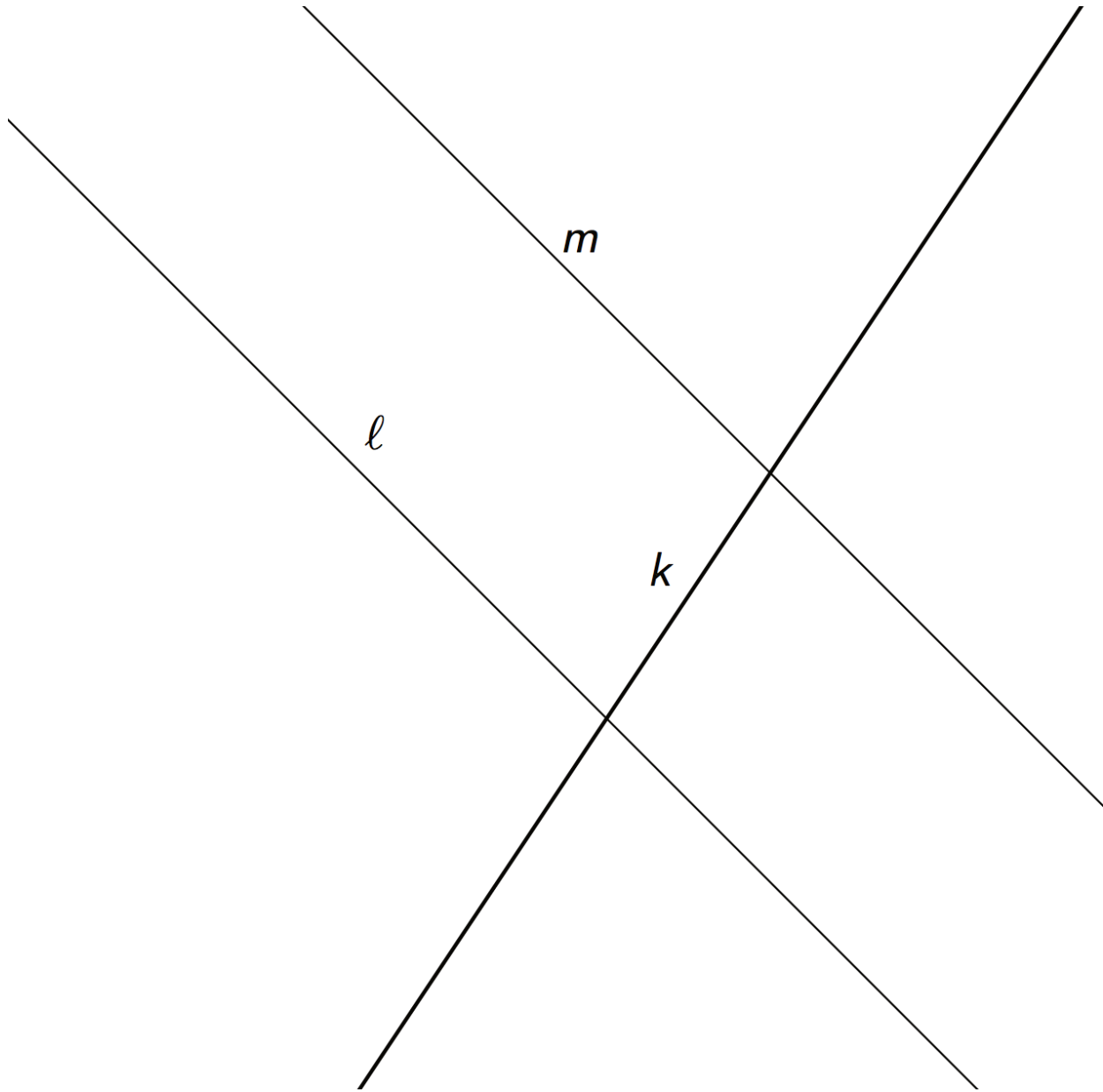
1. Find the measure of angle JGH . Explain or show your reasoning.



2. Find and label a second 30° degree angle in the diagram. Find and label an angle congruent to angle JGH .

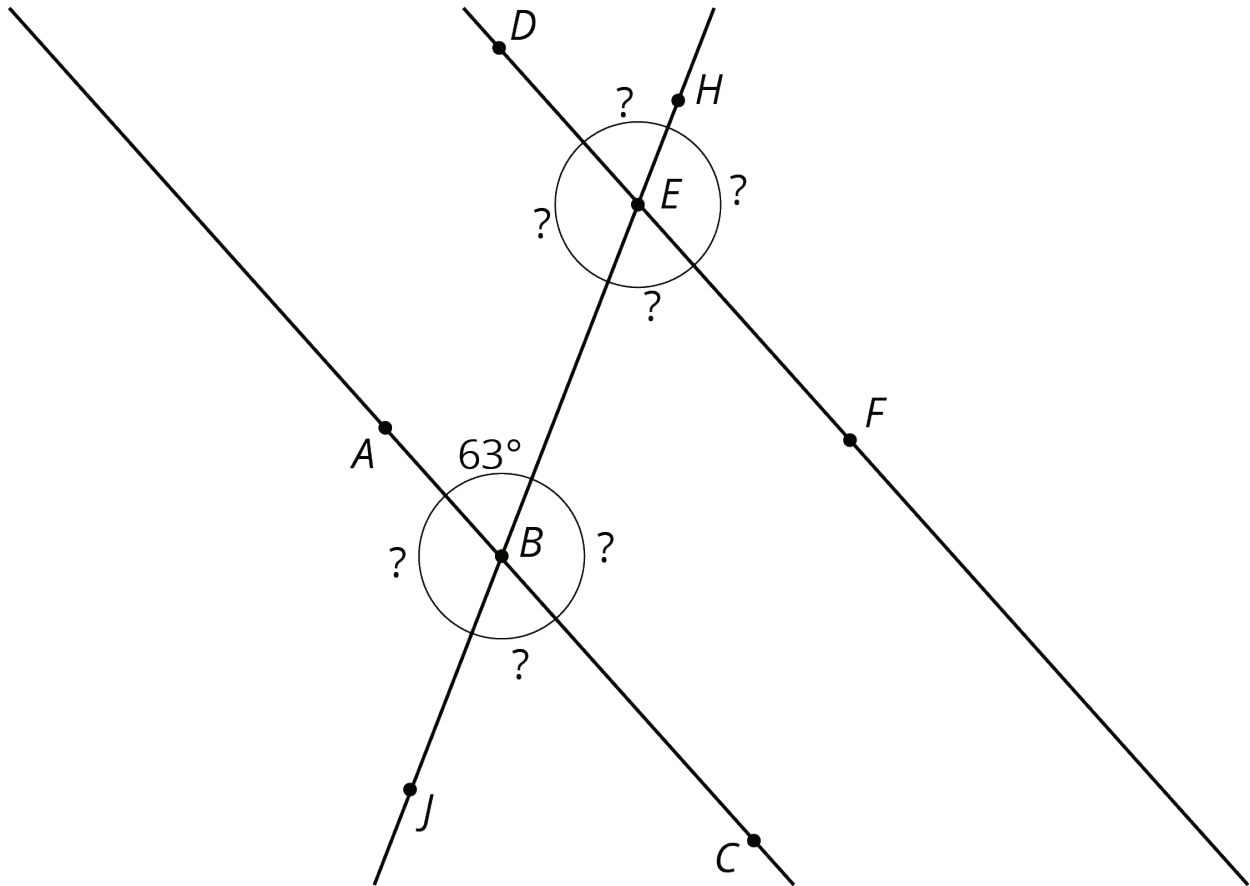
2 Cutting Parallel Lines with a Transversal

Images for Launch



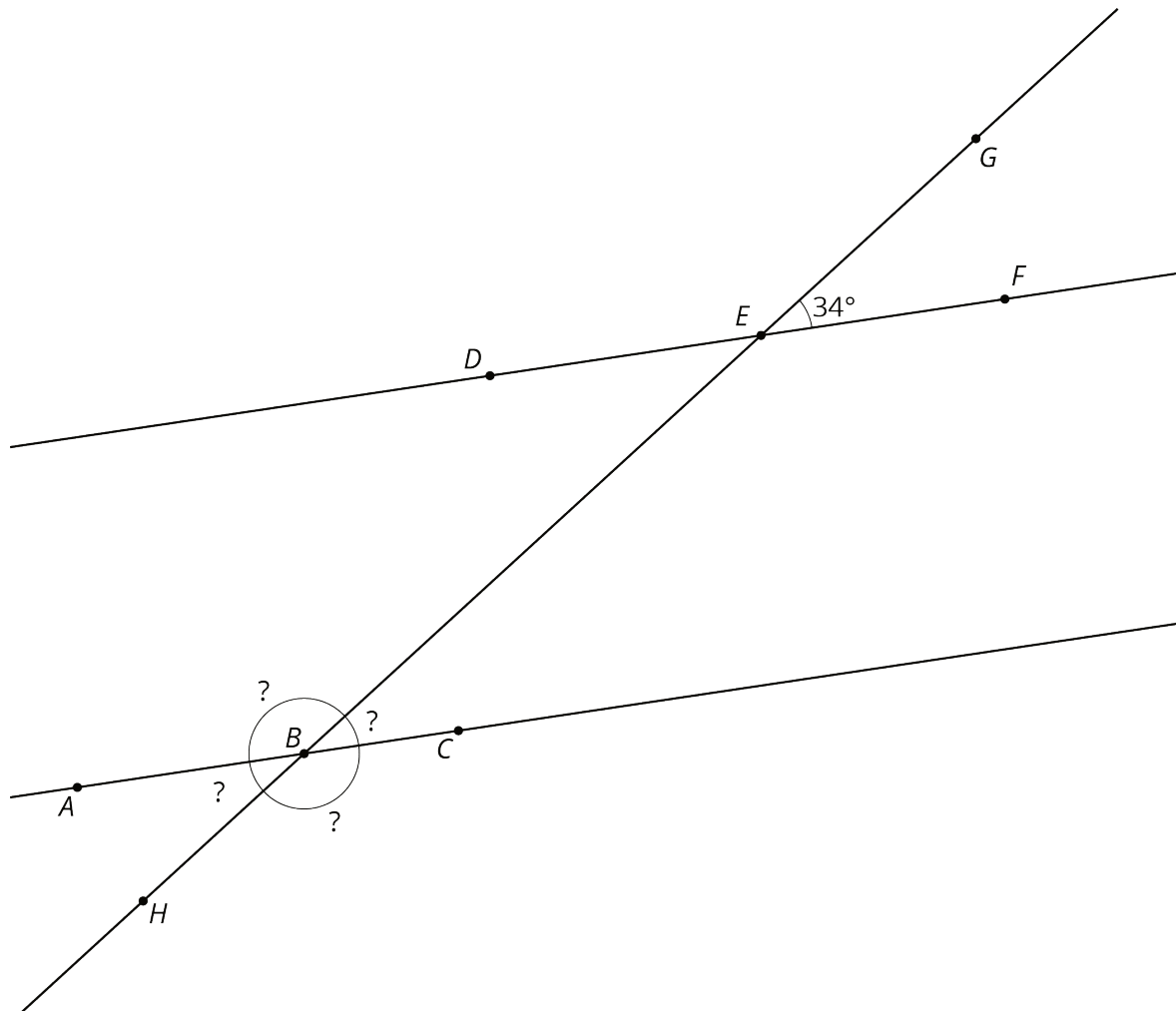
Student Task Statement

Lines AC and DF are parallel. They are cut by transversal HJ .

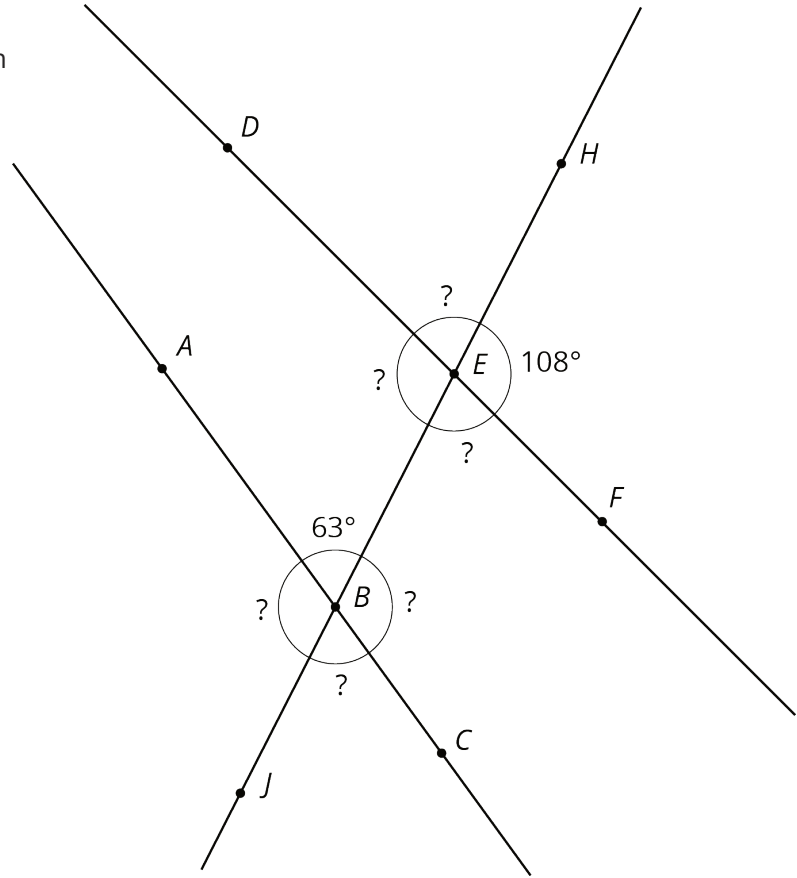


1. With your partner, find the seven unknown angle measures in the diagram. Explain your reasoning.
2. What do you notice about the angles with vertex B and the angles with vertex E ?

3. Using what you noticed, find the measures of the four angles at point B in the second diagram. Lines AC and DF are parallel.



4. 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 *B* and *E*.

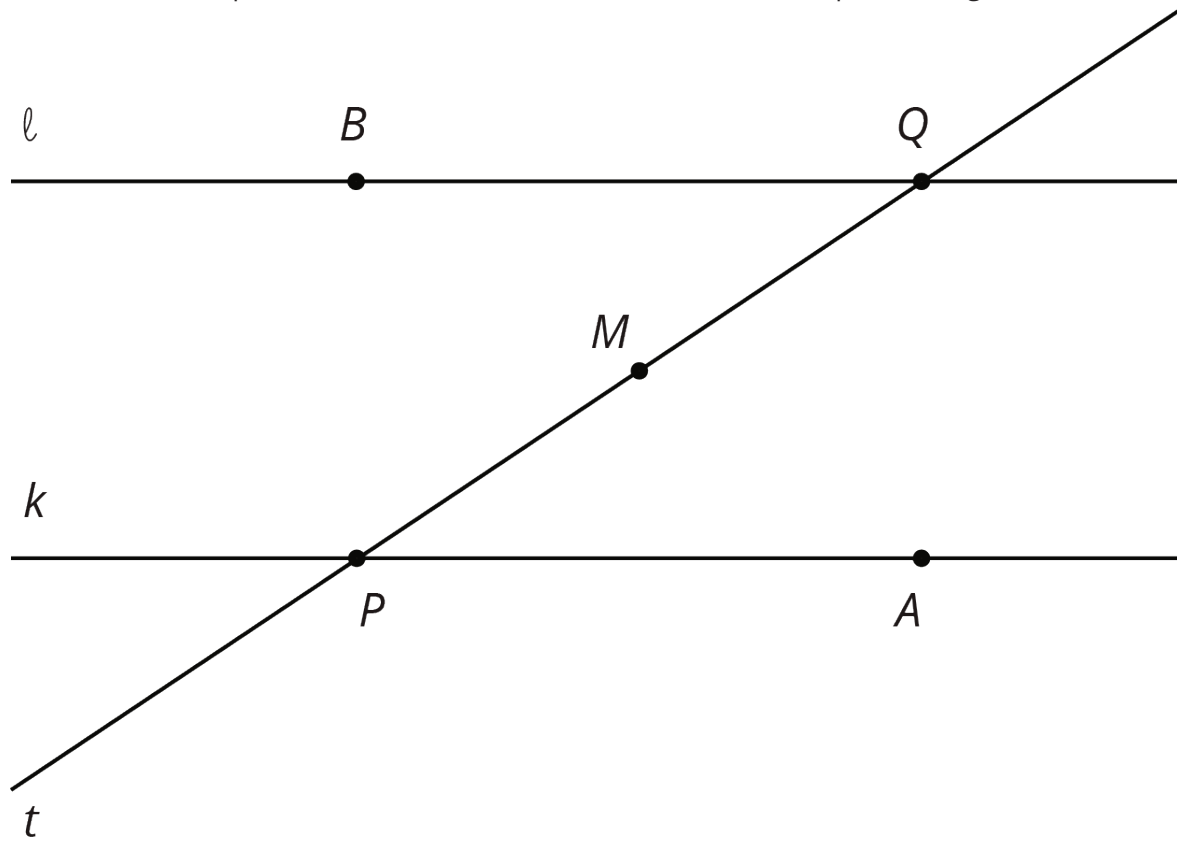


5. What do you notice about the angles in this diagram as compared to the earlier diagram? How are the two diagrams different? How are they the same?

3 Alternate Interior Angles Are Congruent

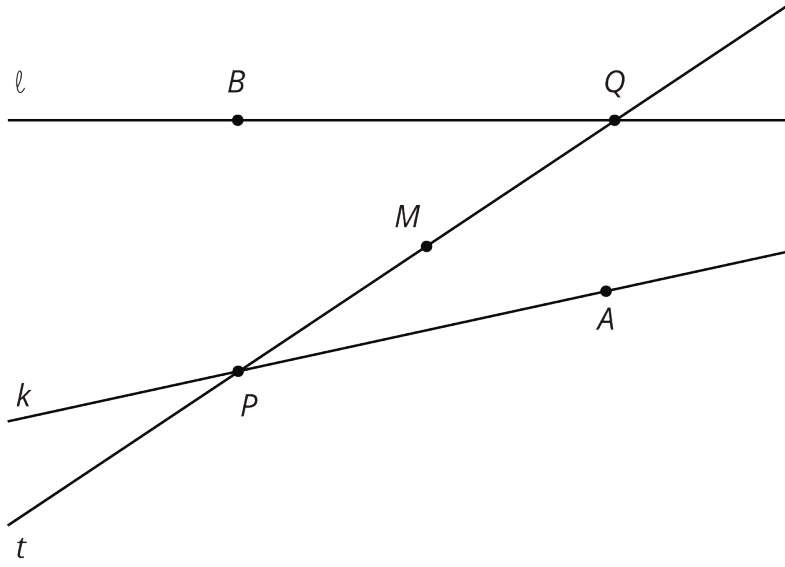
Student Task Statement

1. Lines ℓ and k are parallel and t is a transversal. Point M is the midpoint of segment PQ .



Find a rigid transformation showing that angles MPA and MQB are congruent.

2. In this picture, lines ℓ and k are no longer parallel. M is still the midpoint of segment PQ .



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

Images for Activity Synthesis

