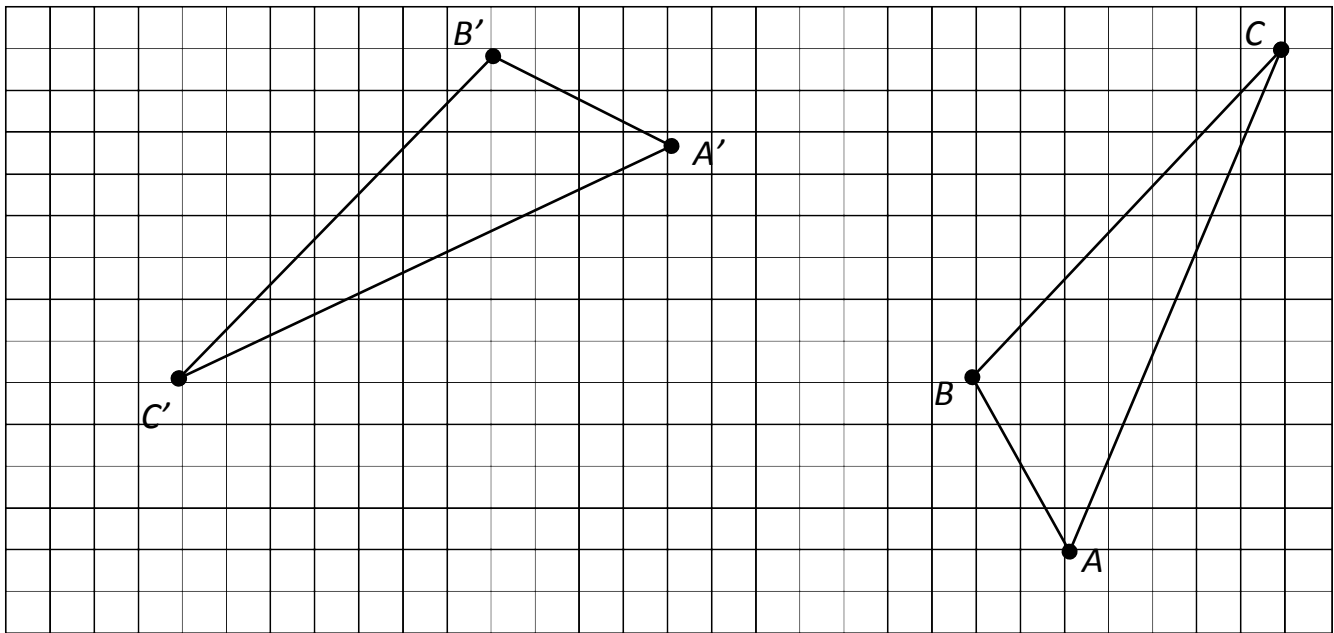


Name \_\_\_\_\_

Date \_\_\_\_\_

1.  $\triangle ABC \cong \triangle A'B'C'$ . Use the picture below to answer parts (a) and (b).

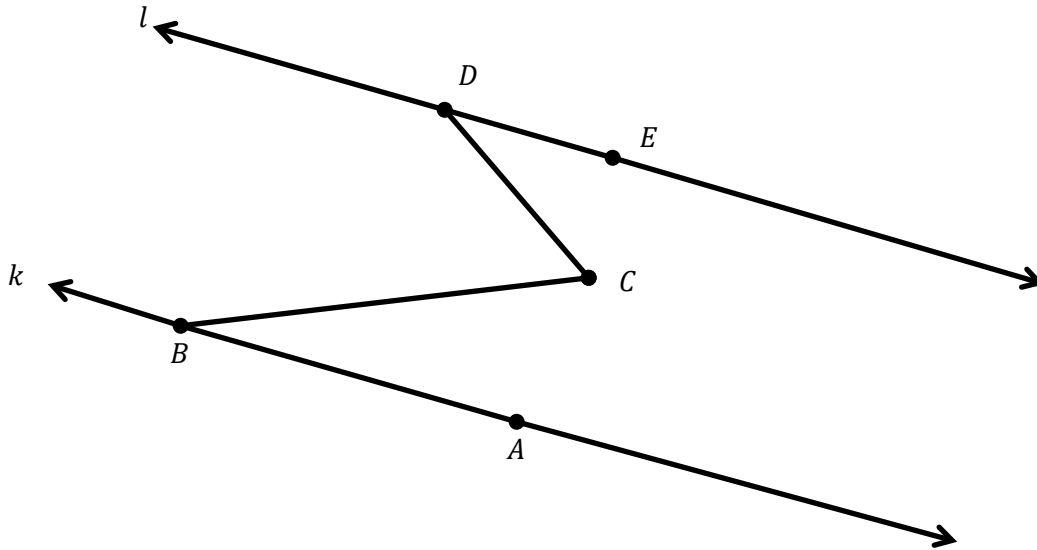


a. Is it possible to show a congruence between  $\triangle ABC$  and  $\triangle A'B'C'$  using only one translation and one reflection? Explain.

b. Describe a sequence of rigid motions that would prove a congruence between  $\triangle ABC$  and  $\triangle A'B'C'$ .

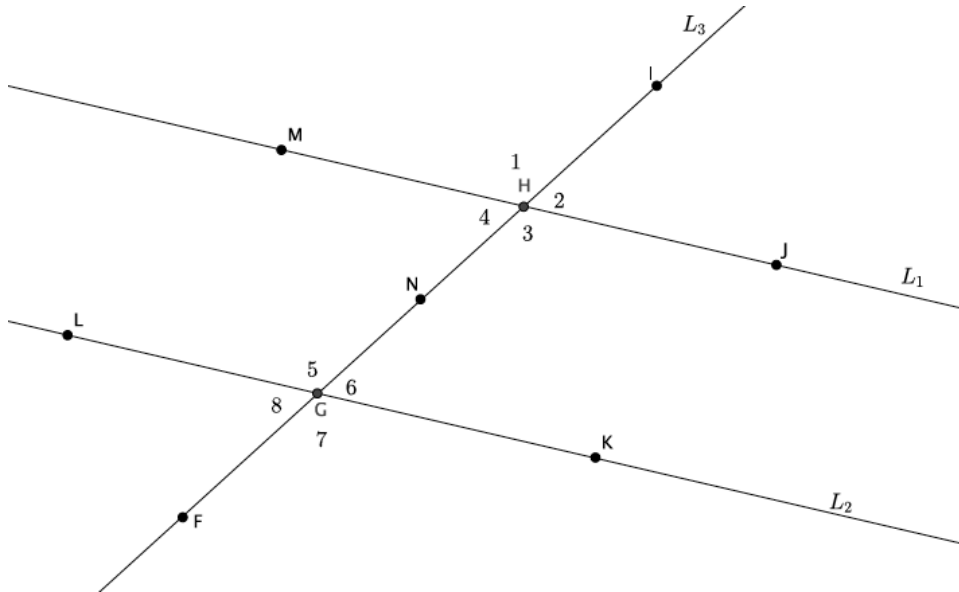
2. Use the diagram to answer the question below.

$k \parallel l$



Line  $k$  is parallel to line  $l$ .  $m\angle EDC = 41^\circ$  and  $m\angle ABC = 32^\circ$ . Find the  $m\angle BCD$ . Explain in detail how you know you are correct. Add additional lines and points as needed for your explanation.

3. Use the diagram below to answer the questions that follow. Lines  $L_1$  and  $L_2$  are parallel,  $L_1 \parallel L_2$ . Point  $N$  is the midpoint of segment  $GH$ .



- a. If  $\angle IHM = 125^\circ$ , what is the measure of  $\angle IHJ$ ?  $\angle JHN$ ?  $\angle NHM$ ?
  
- b. What can you say about the relationship between  $\angle 4$  and  $\angle 6$ ? Explain using a basic rigid motion. Name another pair of angles with this same relationship.
  
- c. What can you say about the relationship between  $\angle 1$  and  $\angle 5$ ? Explain using a basic rigid motion. Name another pair of angles with this same relationship.