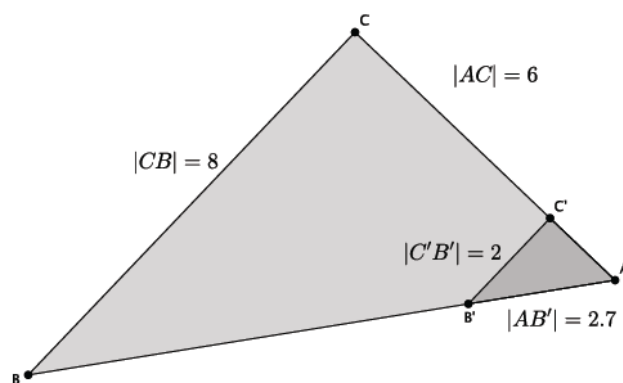


## Lesson 11: More About Similar Triangles

### Classwork

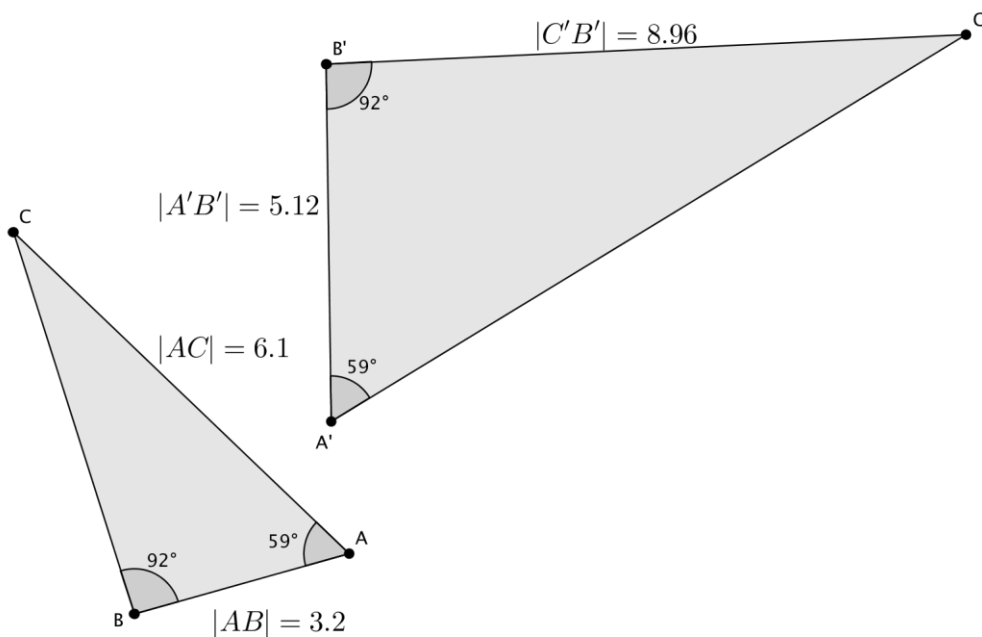
#### Exercises

1. In the diagram below, you have  $\triangle ABC$  and  $\triangle AB'C'$ . Use this information to answer parts (a)–(d).



- Based on the information given, is  $\triangle ABC \sim \triangle AB'C'$ ? Explain.
- Assume the line containing  $BC$  is parallel to the line containing  $B'C'$ . With this information, can you say that  $\triangle ABC \sim \triangle AB'C'$ ? Explain.
- Given that  $\triangle ABC \sim \triangle AB'C'$ , determine the length of side  $\overline{AC'}$ .
- Given that  $\triangle ABC \sim \triangle AB'C'$ , determine the length of side  $\overline{AB}$ .

2. In the diagram below, you have  $\triangle ABC$  and  $\triangle A'B'C'$ . Use this information to answer parts (a)–(c).

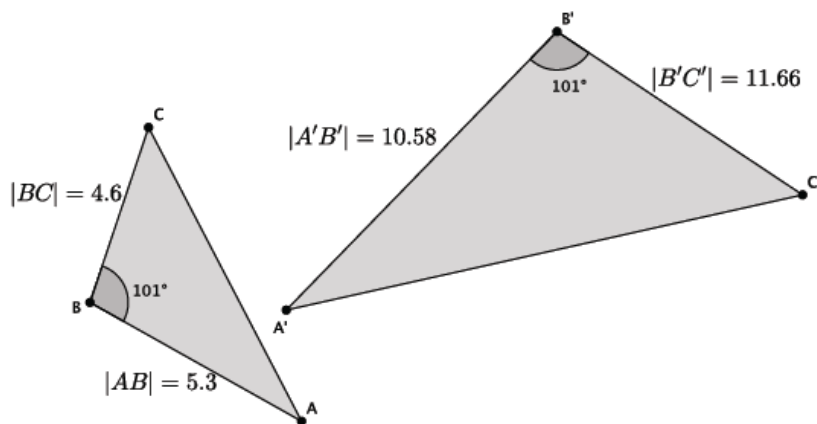


a. Based on the information given, is  $\triangle ABC \sim \triangle A'B'C'$ ? Explain.

b. Given that  $\triangle ABC \sim \triangle A'B'C'$ , determine the length of side  $\overline{A'C'}$ .

c. Given that  $\triangle ABC \sim \triangle A'B'C'$ , determine the length of side  $\overline{BC}$ .

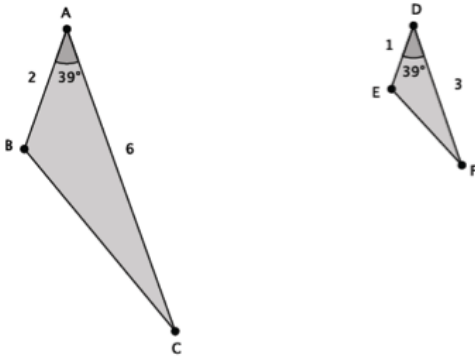
3. In the diagram below, you have  $\triangle ABC$  and  $\triangle A'B'C'$ . Use this information to answer the question below.



Based on the information given, is  $\triangle ABC \sim \triangle A'B'C'$ ? Explain.

**Lesson Summary**

Given just one pair of corresponding angles of a triangle as equal, use the side lengths along the given angle to determine if the triangles are in fact similar.

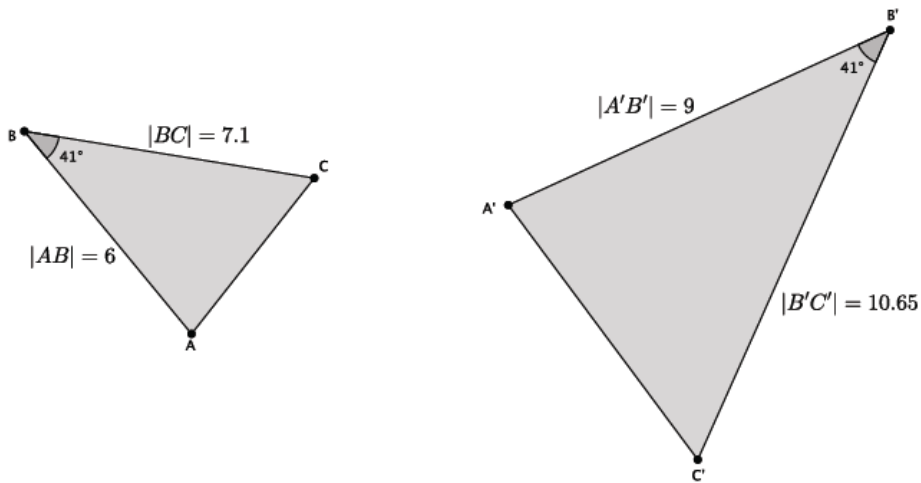


$$|\angle A| = |\angle D| \text{ and } \frac{1}{2} = \frac{3}{6} = r; \text{ therefore, } \triangle ABC \sim \triangle DEF.$$

Given similar triangles, use the fact that ratios of corresponding sides are equal to find any missing measurements.

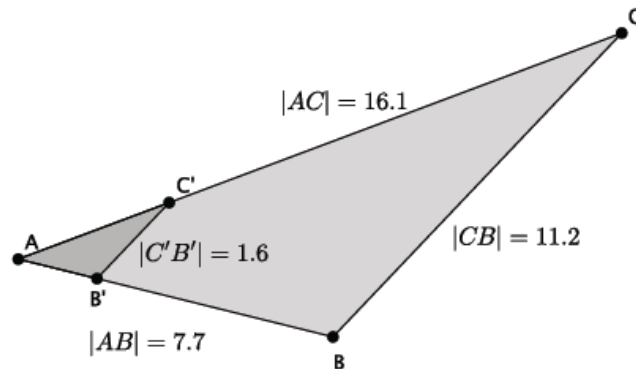
**Problem Set**

- In the diagram below, you have  $\triangle ABC$  and  $\triangle A'B'C'$ . Use this information to answer parts (a)–(b).



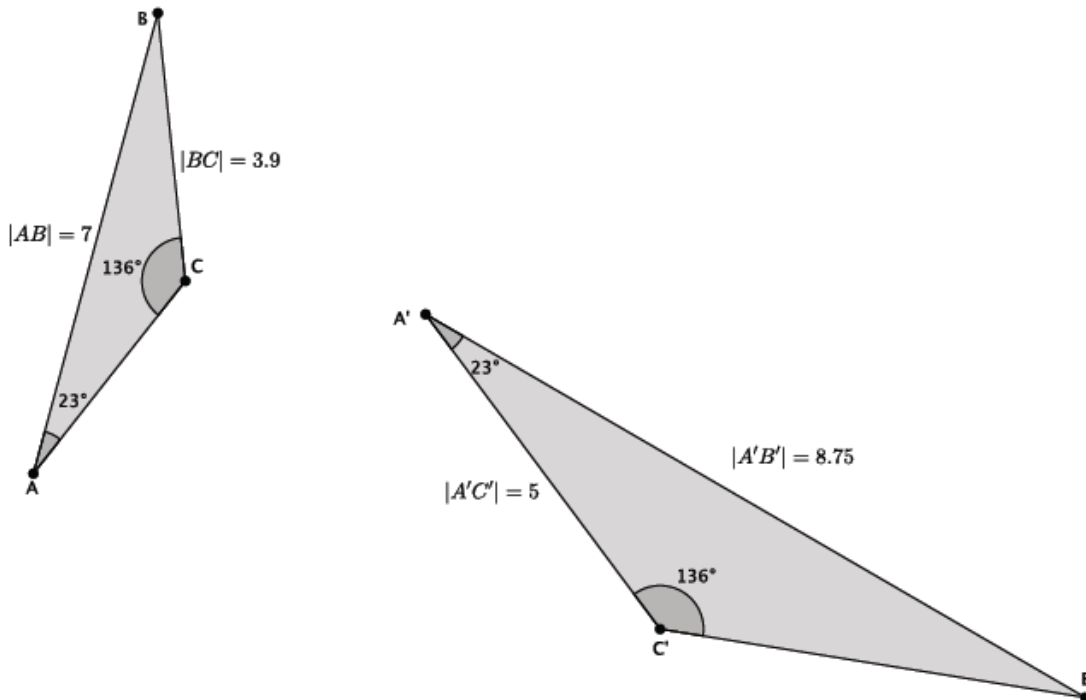
- Based on the information given, is  $\triangle ABC \sim \triangle A'B'C'$ ? Explain.
- Assume the length of side  $\overline{AC}$  is 4.3. What is the length of side  $\overline{A'C'}$ ?

2. In the diagram below, you have  $\triangle ABC$  and  $\triangle AB'C'$ . Use this information to answer parts (a)–(d).



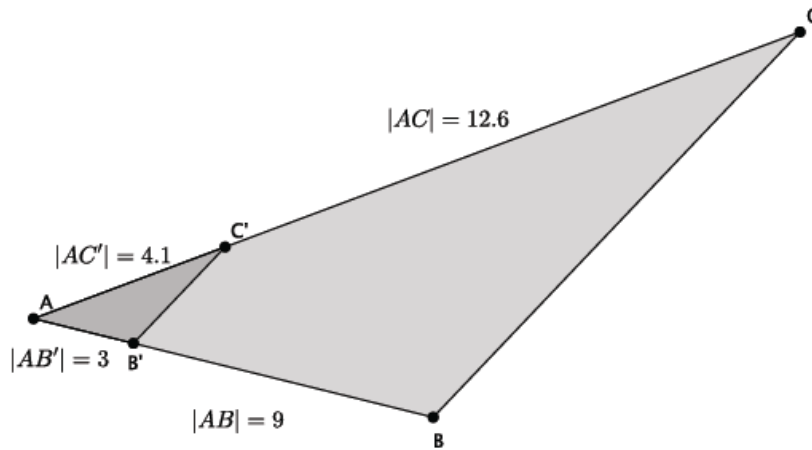
- Based on the information given, is  $\triangle ABC \sim \triangle AB'C'$ ? Explain.
- Assume the line containing  $\overline{BC}$  is parallel to the line containing  $\overline{B'C'}$ . With this information, can you say that  $\triangle ABC \sim \triangle AB'C'$ ? Explain.
- Given that  $\triangle ABC \sim \triangle AB'C'$ , determine the length of side  $\overline{AC'}$ .
- Given that  $\triangle ABC \sim \triangle AB'C'$ , determine the length of side  $\overline{AB'}$ .

3. In the diagram below, you have  $\triangle ABC$  and  $\triangle A'B'C'$ . Use this information to answer parts (a)–(c).



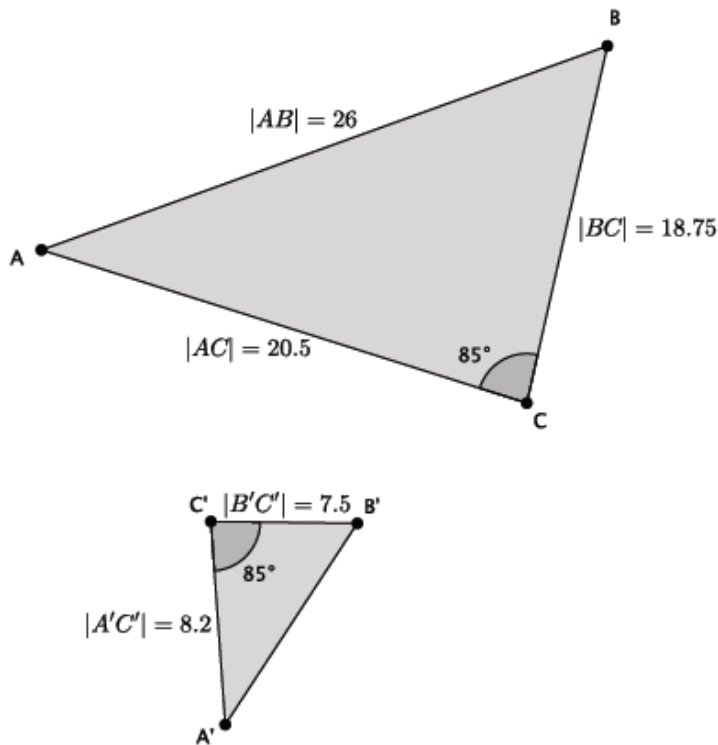
- Based on the information given, is  $\triangle ABC \sim \triangle A'B'C'$ ? Explain.
- Given that  $\triangle ABC \sim \triangle A'B'C'$ , determine the length of side  $\overline{B'C'}$ .
- Given that  $\triangle ABC \sim \triangle A'B'C'$ , determine the length of side  $\overline{AC}$ .

4. In the diagram below, you have  $\triangle ABC$  and  $\triangle AB'C'$ . Use this information to answer the question below.



Based on the information given, is  $\triangle ABC \sim \triangle AB'C'$ ? Explain.

5. In the diagram below, you have  $\triangle ABC$  and  $\triangle A'B'C'$ . Use this information to answer parts (a)–(b).



- Based on the information given, is  $\triangle ABC \sim \triangle A'B'C'$ ? Explain.
- Given that  $\triangle ABC \sim \triangle A'B'C'$ , determine the length of side  $\overline{A'B'}$ .