

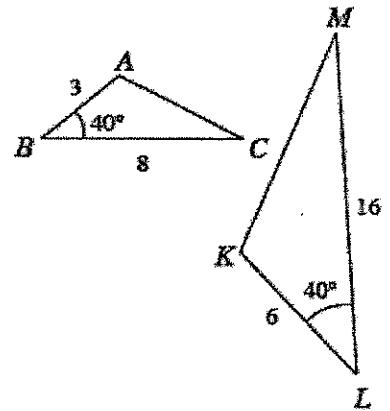
## Lesson 3.2.5

### Determining Similarity

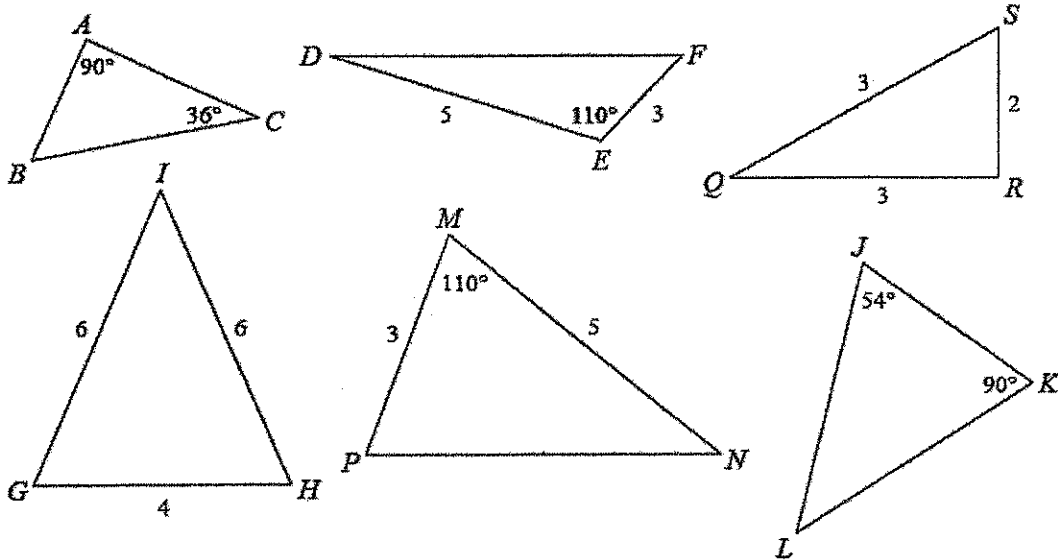
You now have a complete list of the three triangles similarity conditions (AA  $\sim$ , SAS  $\sim$ , and SSS  $\sim$ ) that can be used to verify that two triangles are similar. Today you will continue to practice applying these conditions and using flowcharts to organize your reasoning.

3-94. Lynn wants to show that the triangles below are similar.

- What similarity condition should Lynn use?
- Make a flowchart showing that these triangles are similar.



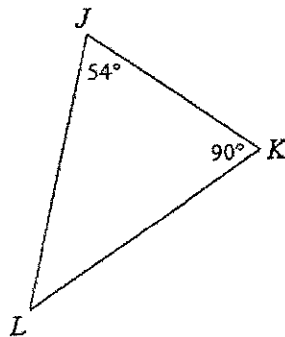
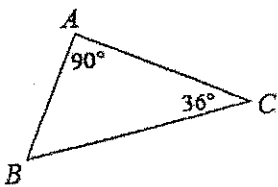
3-95. Below are six triangles, none of which is drawn to scale. Among the six triangles are three pairs of similar triangles. Identify the similar triangles, write a congruency statement, state the condition you used to prove they are similar and state the side ratio if you can.



3-96. Revisit the similar triangles from problem 3-95.

a. Which pair of triangles are congruent? How do you know?

b. Suppose that in problem 3-95,  $AB = 3$  cm,  $AC = 4$  cm, and  $KJ = 12$  cm. Find all the other side lengths in  $\triangle ABC$  and  $\triangle JKL$ .

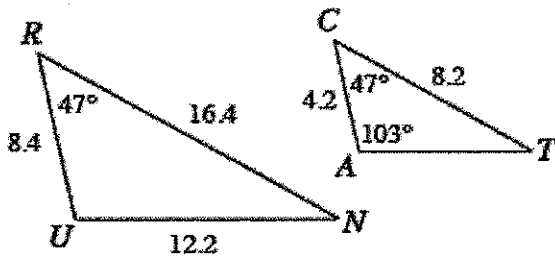


LK =

BC =

LJ =

3-97. Examine the triangles below.



Are these triangles similar? If so, make a flowchart justifying their similarity.

a. Charles has  $\triangle CAT \sim \triangle RUN$  as the conclusion of his flowchart. Leesa has  $\triangle NRU \sim \triangle TCA$  as her conclusion. Who is correct? Why?

b. Are  $\triangle CAT$  and  $\triangle RUN$  congruent? Explain how you know.

c. Find all the missing side lengths and all the angle measures of  $\triangle CAT$  and  $\triangle RUN$ .

$AT =$

$\angle U =$

$\angle N =$

$\angle T =$

