

7.2

Framing a Picture

Similar and Congruent Polygons

7

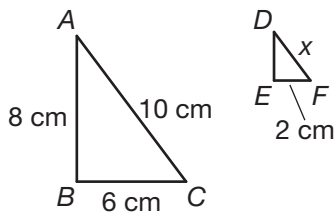
Students should be able to answer these questions after Lesson 7.2:

- How are similar and congruent polygons identified?
- How are ratios used in determining unknown sides of similar figures?

Directions

Read Question 1 and its solution. Then solve for x in Questions 2 and 3.

1. $\triangle ABC \sim \triangle DEF$



Step 1 Corresponding sides of similar triangles are proportional. Write a proportion that can be used to solve for x .

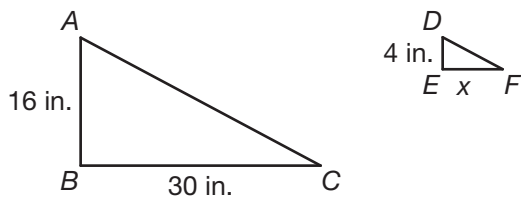
$$\frac{10}{x} = \frac{6}{2}$$

Step 2 Solve the proportion by cross-multiplying and dividing.

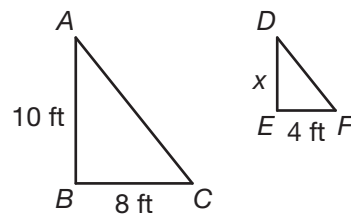
$$6x = 20$$

$$x = \frac{20}{6} = 3.\bar{3} \text{ cm}$$

2. $\triangle ABC \sim \triangle DEF$



3. $\triangle ABC \sim \triangle DEF$



7.3

Using an Art Projector

Proving Triangles Similar: AA, SSS, SAS

7

Students should be able to answer these questions after Lesson 7.3:

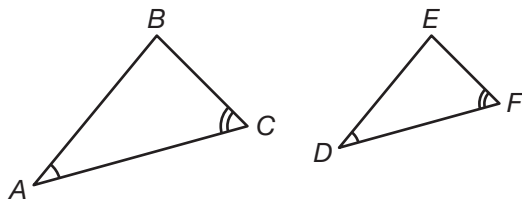
- How can you prove that two triangles are similar?
- How is a similarity statement written?

Directions

Read Question 1 and its solution. Then decide whether the triangles in Questions 2 and 3 are similar. If they are similar, write a similarity statement.

Using the similarity rules, decide whether the triangles are similar. If they are similar, write a similarity statement.

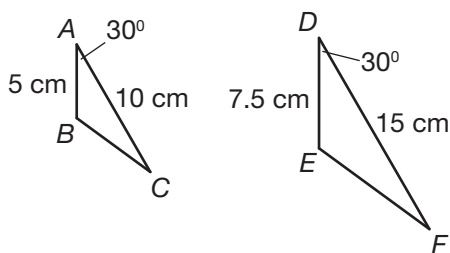
1.



Step 1 $ABC \sim DEF$ because of the AA Similarity Theorem. Two of the angles are congruent, so the triangles must be similar.

In the similarity statement, the vertices of the congruent angles correspond to each other.

2.



3.

