Similarity Worksheet 1 - Answers
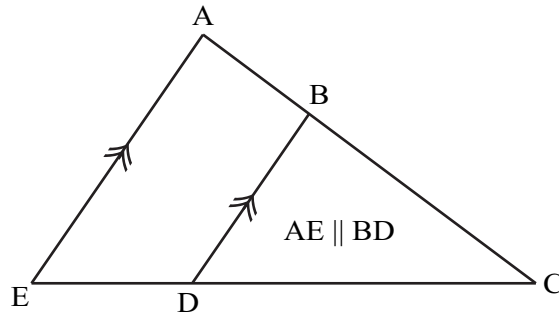
A

B

AE || BD

E   D   C

Figure 1

Refer to Figure 1 to answer questions 1 - 4 to prove similarity of triangles.

1. Is $\angle C \cong \angle C$? How do you know?
   Reflexivity property.

2. What can you claim using Substitution property ?
   $\angle ACE \cong \angle BCD$.

3. Name of the property because of which $\angle EAC \cong \angle DBC$ is true.
   Substitution property of equality.

4. What can you claim using Angle-Angle postulate?
   $\triangle ACE \sim \triangle BCD$

5. $\triangle ABC$ has angles of 55° and 78°. What is the measure of the remaining angle?
   47°

6. $\triangle DEF$ has angles of 55° and 47°. What is the measure of the remaining angle?
   78°.

7. Is it true that $\triangle ABC \sim \triangle DEF$? How do you know?
   Yes. By the AA postulate for triangles, two congruent pairs of angles means the triangles are similar.

8. $\triangle GHI$ has angles of 38° and 26°. What is the measure of the remaining angle?
   116°

9. $\triangle JKL$ has angles of 26° and 115°. What is the measure of the remaining angle?
   39°.

10. Are the triangles similar? How do you know?
    No. By the AA postulate, we need to confirm that two of the angles are congruent to establish triangle similarity. Here, only one angle is congruent.