

Similarity and Congruence

ANSWER KEY

1.) In triangle ABC, angle A measures 50 degrees, angle B measures 70 degrees, and angle C measures 60 degrees. If triangle DEF is similar to triangle ABC, what is the measure of angle D? **Angle D = 50°**

2.) Triangle XYZ has side lengths of 4 cm, 5 cm, and 6 cm. Triangle UVW has side lengths of 4 cm, 5 cm, and 6 cm. Are triangles XYZ and UVW congruent?

Yes, they are congruent.

3.) In rectangle ABCD, the length is 10 cm and the width is 5 cm. If rectangle WXYZ is similar to rectangle ABCD with a scale factor of 2:1, what are the dimensions of rectangle WXYZ?

Length = 20 cm

Width = 10 cm

4.) Triangle PQR has side lengths of 3 cm, 4 cm, and 5 cm. Triangle STU has side lengths of 6 cm, 8 cm, and 10 cm. Are triangles PQR and STU congruent?

Yes, they are congruent.

5.) Triangle LMN has side lengths of 6 cm, 8 cm, and 10 cm. Triangle PQR is similar to triangle LMN with a scale factor of $\frac{1}{2}$. If the length of side LM corresponds to side PQ, what is the length of side PQ?

3 cm

6.) Triangle ABC has angles measuring 30°, 60°, and 90°. Triangle DEF also has angles measuring 30°, 60°, and 90°. Are triangles ABC and DEF congruent?

Yes they are congruent.

7.) Rectangle XYZ has side lengths of 6 cm and 9 cm. Rectangle RST is similar to rectangle XYZ with a scale factor of $\frac{1}{3}$. What are the dimensions of rectangle RST?

length = 2 cm

Width = 3 cm

8.) Triangle UVW has side lengths of 5 cm, 7 cm, and 9 cm. Triangle XYZ has side lengths of 5 cm, 7 cm, and 9 cm. Are triangles UVW and XYZ congruent?

Yes, they are congruent.

