ADAM Assessment Unit 2: Geometry 2022 - 2023

If you are doing this on paper, you will have to put them in on Clever as well.

1. Sarita drew △ABC on a coordinate grid. Then she rotated △ABC a certain number of degrees about the origin to produce △A′B′C′. Which of these statements must be true? Choose ALL that are correct.

A $\triangle ABC \cong \triangle A'B'C'$

B $\angle A \cong \angle A'$

C $\overline{BC} \cong \overline{B'C'}$

D $\angle A \cong \angle B$

E $\overline{BC} \parallel \overline{B'C'}$

2. Line m has the equation y=−13x−2. Line k is parallel to line m and passes through the points (0,4) and (9,a). What is the value of a?

A −5

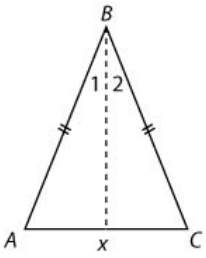
B 31

C −3

D 1

Given: $\overline{BA} \cong \overline{BC}$, and $\overline{BX}$ bisects $\angle ABC$.

3.

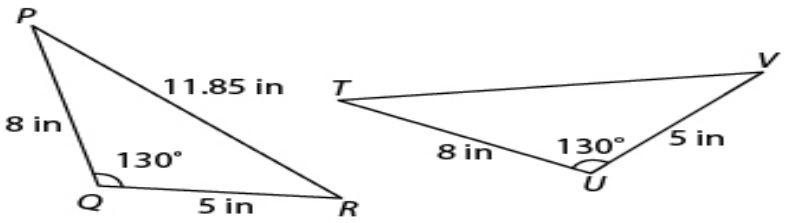


Proof: $\overline{BA} \cong \overline{BC}$ is given. $\angle 1 \cong \angle 2$ by the definition of an angle bisector. $\overline{BX} \cong \overline{BX}$ by the reflexive property of congruence. Therefore, $\triangle ABX \cong \triangle CBX$ by the _____ postulate. Finally, $\angle A \cong \angle C$ because corresponding parts of congruent triangles are congruent.

1. SSS
2. AAA
3. SAS
4. ASA

4.

Two triangles are shown.



Which of the following best explains why the triangles are congruent?

A A rotation that carries angle *U* and sides $\overline{TU}$ and $\overline{UV}$ onto angle *Q* and sides $\overline{PQ}$ and $\overline{QR}$, respectively, also carries $\triangle TUV$ onto $\triangle PQR$.

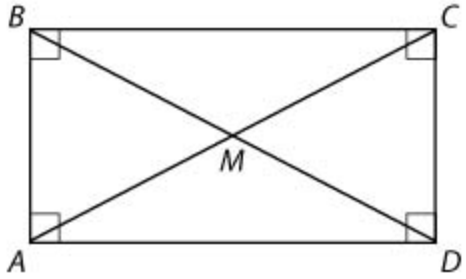
B Because angles *U* and *Q* are congruent, angles *T* and *V* must also be congruent to angles *P* and *R*, respectively.

C A rotation that carries side $\overline{UV}$ onto side $\overline{PQ}$ also carries $\triangle TUV$ onto $\triangle PQR$.

D Because $\overline{TU}$ is congruent to $\overline{PQ}$, $\overline{TV}$ must be congruent to $\overline{PR}$, so the triangles are congruent by SSS.

Look at the diagram and the theorem below.

5.



If a parallelogram is a rectangle, then the diagonals are congruent.

Which of the following statements can be used to prove the theorem?

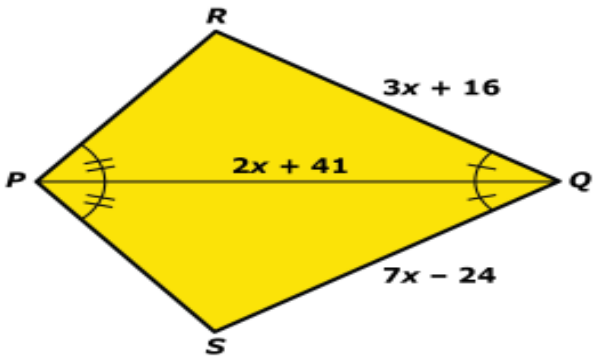
A $\triangle ABC \cong \triangle CDA$ by SSS

B $\triangle ABC \cong \triangle DCB$ by SAS

C $\triangle AMB \cong \triangle DMC$ by SSS

D $\triangle ABD \cong \triangle CDB$ by SAS

6. In the figure below, triangles *PQR* and *PQS* are congruent.



Which of the following is the value of *PQ*?

A 46

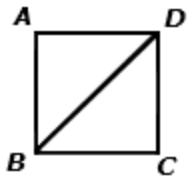
B 61

C 67

D 91

Given: $\triangle ABD \cong \triangle CDB$

7.



Which of the following must be true if the triangles are congruent?

A $\overline{AB} \parallel \overline{DC}$

B $\overline{AB} \perp \overline{BC}$

C $\overline{DB}$ bisects $\angle ABC$

D None of the statements above must be true.