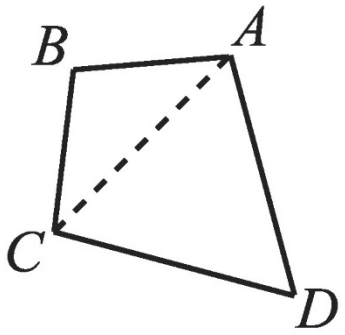
4.3

TRIANGLE CONGRUENCE BY SSS AND SAS

Suppose m and n are odd positive integers. Which of the following must also be an odd integer?

(A) $m + 3n$ **(B)** $3m - n$ **(C)** $3mn$ **(D)** $(nm + 3)^2$ **(E)** $3m^2 + 3n^2$

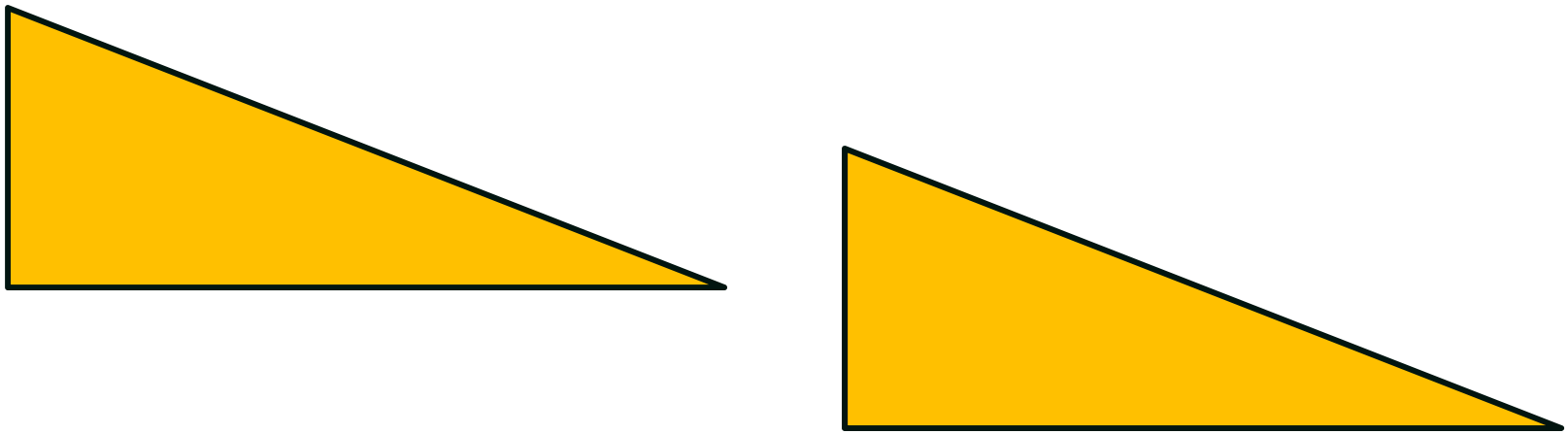
In quadrilateral $ABCD$ sides $\overline{AB}$ and $\overline{BC}$ both have length 10, sides $\overline{CD}$ and $\overline{DA}$ both have length 17, and the measure of angle ADC is 60°. What is the length of diagonal $\overline{AC}$?



(A) 13.5 **(B)** 14 **(C)** 15.5 **(D)** 17 **(E)** 18.5

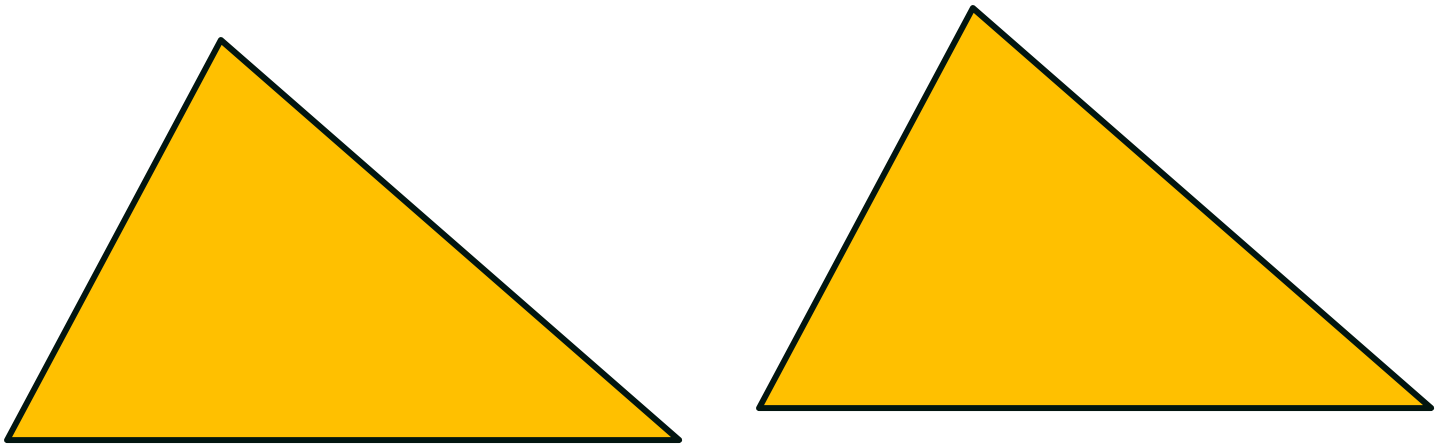
Exploring...

Side-Side-Side Postulate



If _____ sides in one triangle are congruent to _____ sides in another triangle, then the triangles are _____ .

Side-Angle-Side Postulate

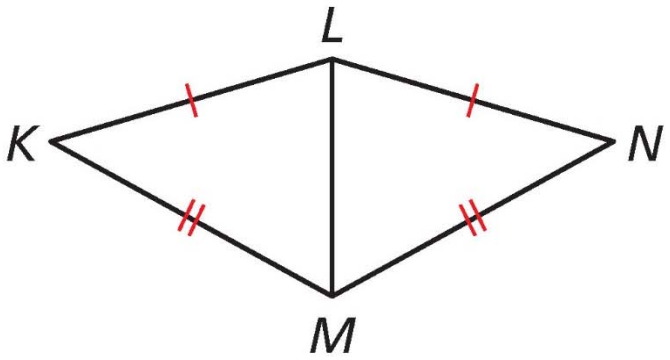


If _____ sides and the _____ angle in one triangle are congruent to _____ sides and the _____ angle in another triangle, then the two triangles are _____ .

Write a proof.

Given $\overline{KL} \cong \overline{NL},\ \overline{KM} \cong \overline{NM}$

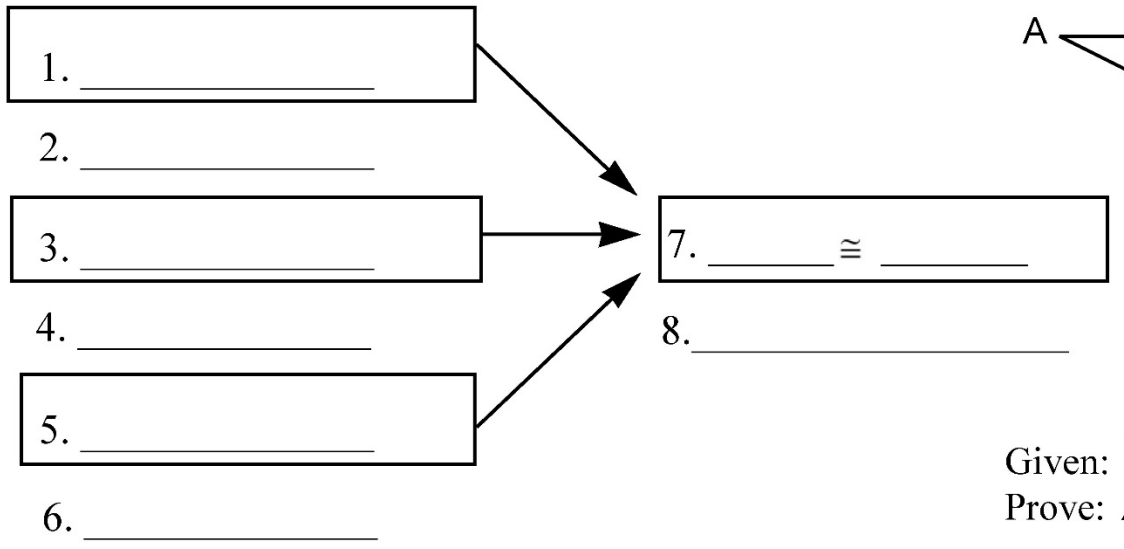
Prove $\triangle KLM \cong \triangle NLM$

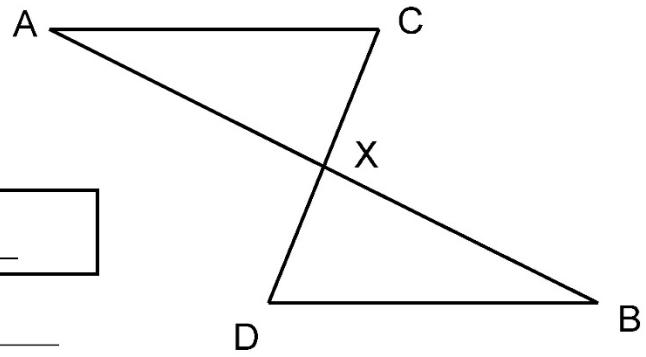


Statements	Reasons

Flow Chart Proofs

Use the information to complete the following flow chart proof.



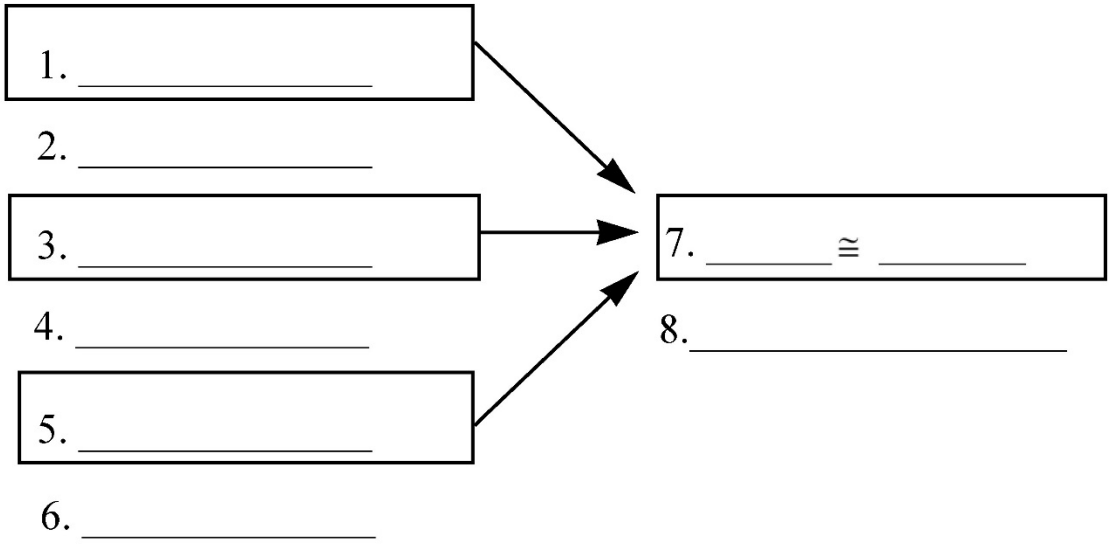


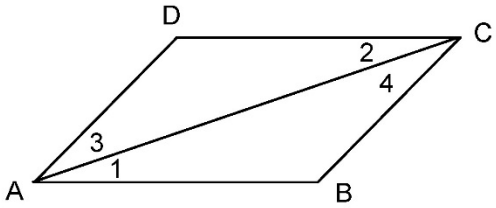
Given: $\overline{AX} \cong \overline{BX}$; $\overline{CX} \cong \overline{DX}$

Prove: $\Delta AXC \cong \Delta BXD$

Flow Chart Proofs

Use the information to complete the following flow chart proof.





Given: $\angle 3 \cong \angle 4$; $\overline{BC} \cong \overline{DA}$

Prove: $\Delta ADC \cong \Delta CBA$