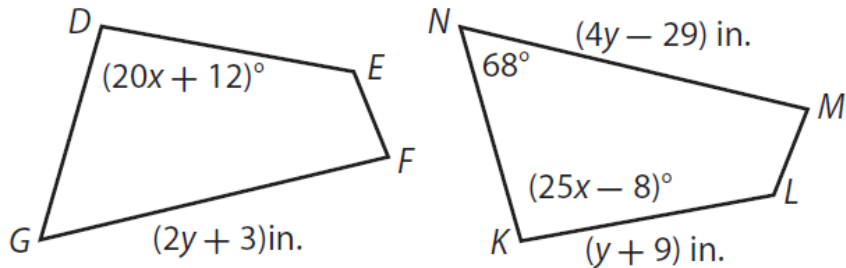


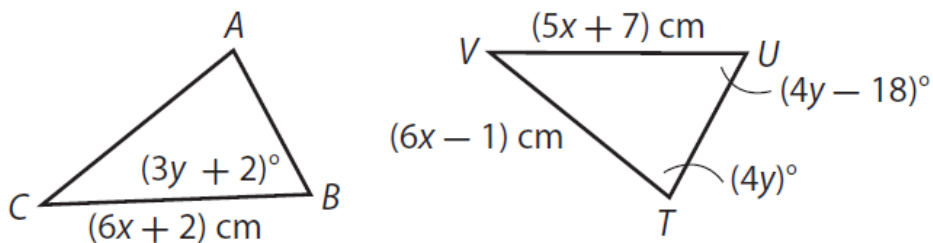
$DEFG \cong KLMN$ . Find the given side length or angle measure.



$m\angle D =$  \_\_\_\_\_

$m\overline{FG} =$  \_\_\_\_\_

$\triangle ABC \cong \triangle TUV$ . Find the given side length or angle measure.



$m\angle B =$  \_\_\_\_\_

$m\overline{CB} =$  \_\_\_\_\_

$m\angle T =$  \_\_\_\_\_

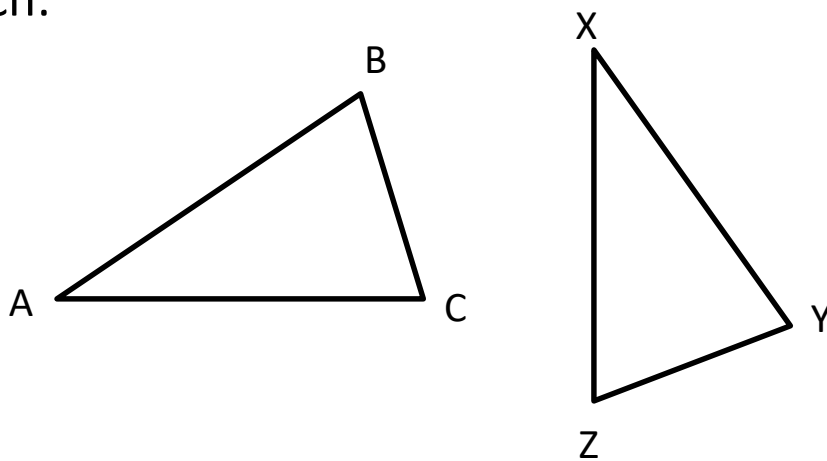
$m\overline{VT} =$  \_\_\_\_\_

Create a 2-column proof for each:

*Given:*  $\triangle ABC \cong \triangle XYZ$

$\angle ABC \cong \angle ACB$

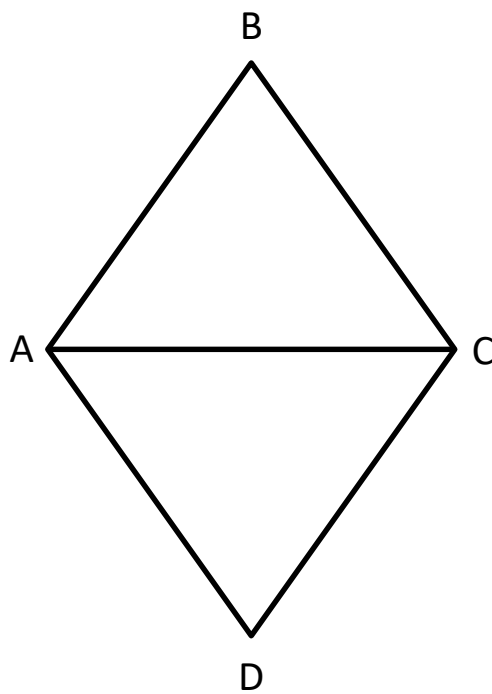
*Prove:*  $\angle ABC \cong \angle XZY$



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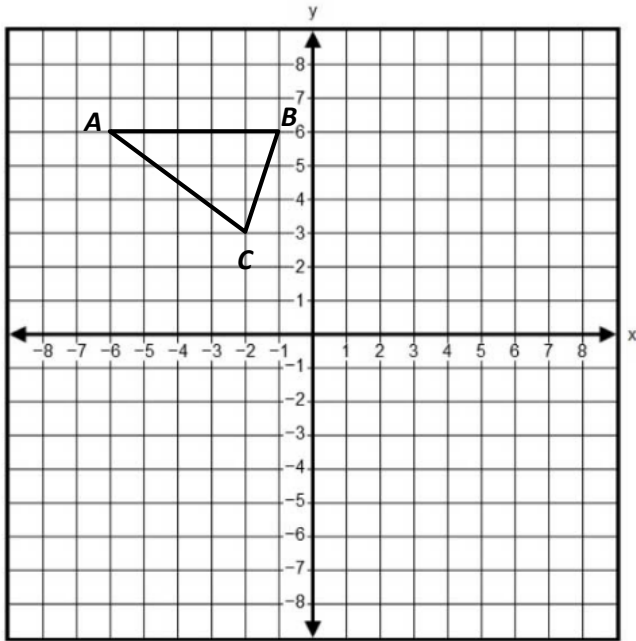
*Given:*  $\triangle ABC \cong \triangle ADC$

*Prove:* segment AC bisects  $\angle BCD$



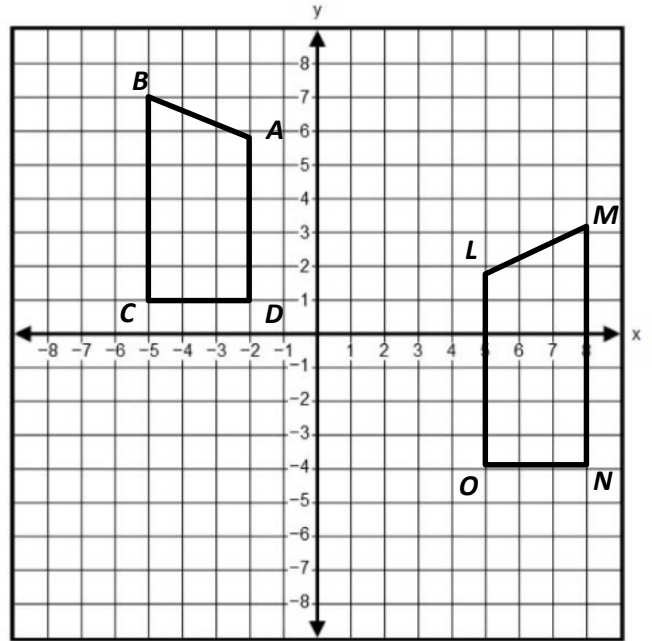
Transform  $\triangle ABC$  Using the following two transformations to create  $\triangle A''B''C''$ . Carefully draw triangle  $\triangle A''B''C''$ .

$$(x, y) \rightarrow (y, x) \rightarrow (2x, 2y)$$



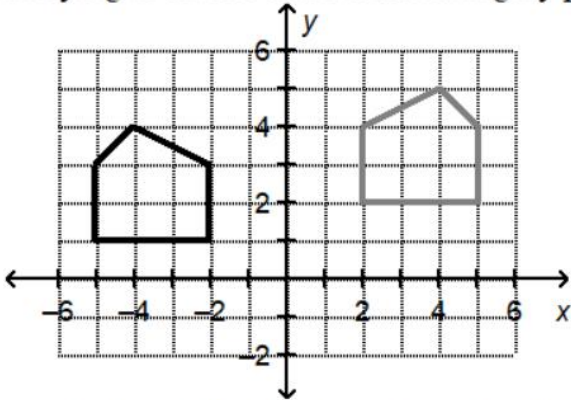
Is  $\triangle A''B''C''$  congruent to  $\triangle ABC$ ? Answer using the definitions of rigid and/or non-rigid motion.

Observe the two quadrilaterals on the graph below.



State whether or not the shapes above are congruent. Use the concepts of rigid motion, precise coordinate rules, and the application of the rules to map shape ABCD onto shape LMNO:

In trying to decide if the black and gray pentagons shown are congruent, Beth used the following reasoning:



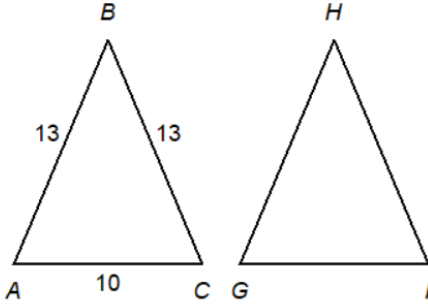
*"I translated the black pentagon 7 units to the right and 1 unit up. Three of the five sides match, but the top two sides don't match. So, the figures are not congruent."*

Explain and correct the error in the reasoning.

If  $\triangle ABC \cong \triangle DEF$ , which segment is congruent to  $\overline{AC}$ ?

- A  $\overline{DE}$
- B  $\overline{EF}$
- C  $\overline{DF}$
- D  $\overline{AB}$

If  $\triangle ABC \cong \triangle GHI$ , what is the length of  $\overline{GH}$ ?

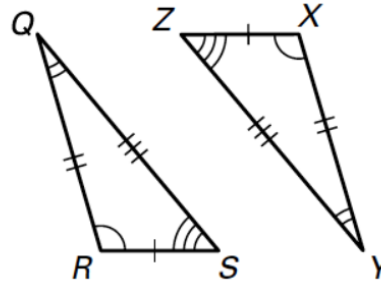


- A 10
- B 13
- C 23
- D The length cannot be determined.

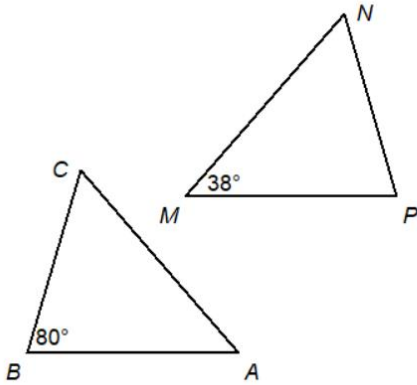
If  $\triangle TRI \cong \triangle ANG$ , which of the following congruence statements are true?

- A  $\overline{TR} \cong \overline{AN}$
- B  $\overline{TI} \cong \overline{AG}$
- C  $\overline{RI} \cong \overline{NG}$
- D  $\overline{TI} \cong \overline{NA}$
- E  $\angle T \cong \angle A$
- F  $\angle R \cong \angle N$
- G  $\angle I \cong \angle G$
- H  $\angle A \cong \angle N$

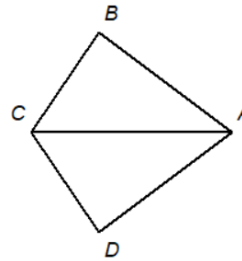
Name the triangle that is congruent to  $\triangle QRS$ .



In the figure below,  $\triangle ABC \cong \triangle MPN$ . Find  $m\angle A$ .



In the figure below,  $\triangle ABC$  is a reflection of  $\triangle ADC$  over  $\overleftrightarrow{AC}$ . Explain why  $\overline{CD} \cong \overline{CB}$ .



Do a mini-proof: