Congruence

Name(s): _____ Period: _____ Date: _____

Directions: For questions 1–6, complete the following statements based on the given information. Draw a diagram of the triangles, if necessary.

Given: $\triangle MNO \cong \triangle GHI$

1. $\overline{MO} \cong$ _____

2. $\overline{HG} \cong$ _____

3. $\angle N \cong$ _____

4. $\angle I \cong$ _____

5. $\triangle NOM \cong$ _____

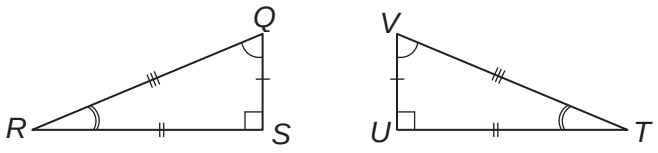
6. $\triangle IGH \cong$ _____

7. If $\triangle MNO \cong \triangle GHI$, then which of the following is NOT true? (Circle one)

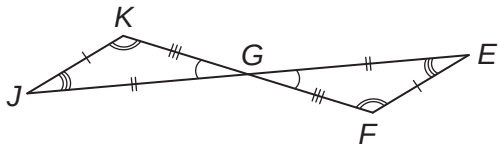
A. $\triangle MON \cong \triangle GIH$ **B.** $\triangle NMO \cong \triangle HGI$ **C.** $\triangle HIG \cong \triangle NMO$ **D.** $\triangle IHG \cong \triangle ONM$

Directions: For questions 8–10, refer to the diagram of the figures to complete the statement.

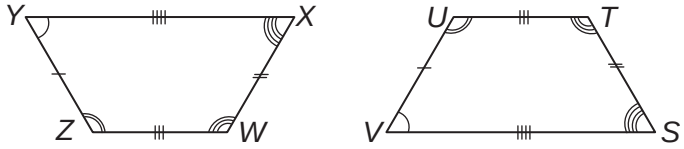
8. $\triangle QRS \cong$ _____



9. $\triangle EFG \cong$ _____



10. $WXYZ \cong$ _____



11. $\triangle ABC \cong \triangle DEF$, $AB = 3x - 1$, $BC = 2x + 10$, $AC = x + 6$, and $EF = 4x - 20$. **Show all work.**
Make a sketch and find the following values:

A. $x =$ _____ **B.** $DE =$ _____ **C.** the perimeter of $\triangle DEF =$ _____

12. $\triangle IOU \cong \triangle CPA$ Include a sketch. **Show all work.**
IO is 10 less than 3 times a number.
IU is 2 less than twice the same number.
CA is 5 more than the same number.
PA is 1 more than twice the same number.

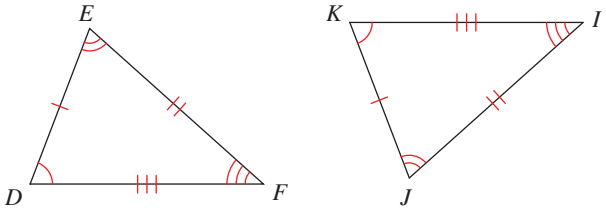
Therefore, the perimeter of $\triangle IOU =$ _____.

Congruence and Triangles

Date_____ Period____

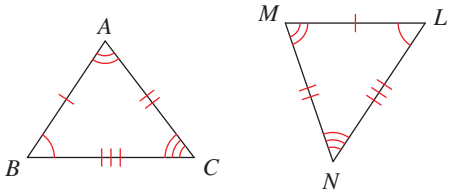
Complete each congruence statement by naming the corresponding angle or side.

1) $\Delta DEF \cong \Delta KJI$



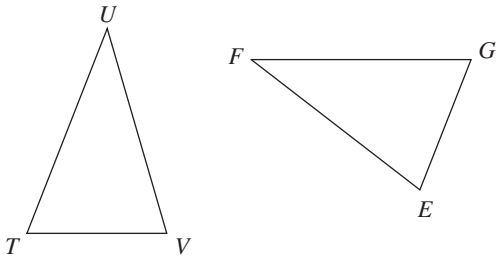
$\overline{FD} \cong$

2) $\Delta BAC \cong \Delta LMN$



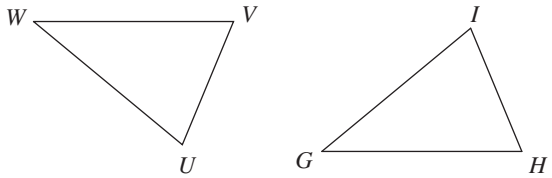
$\angle A \cong$

3) $\Delta TUV \cong \Delta GFE$



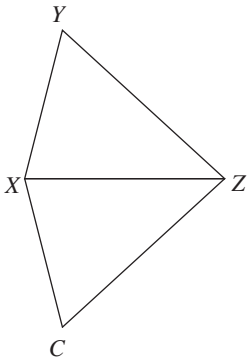
$\angle U \cong$

4) $\Delta WVU \cong \Delta GHI$



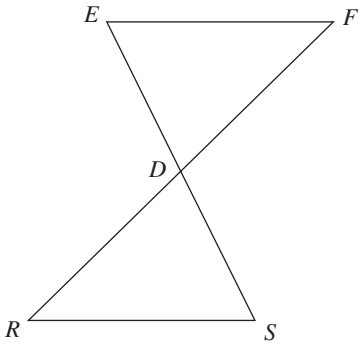
$\angle W \cong$

5) $\Delta ZXY \cong \Delta ZXC$



$\angle Y \cong$

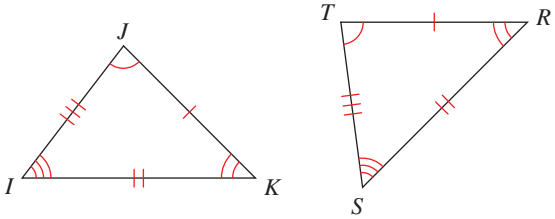
6) $\Delta DEF \cong \Delta DSR$



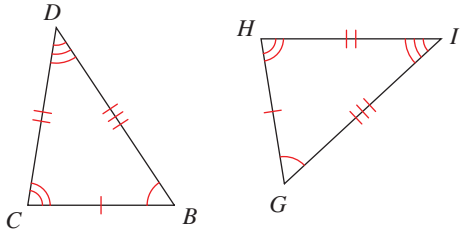
$\angle F \cong$

Write a statement that indicates that the triangles in each pair are congruent.

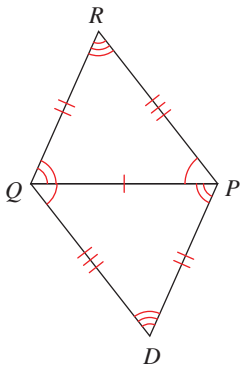
7)



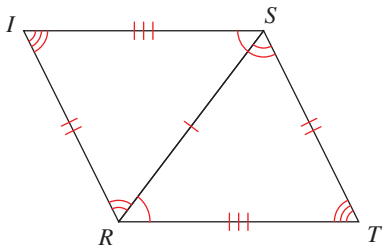
8)



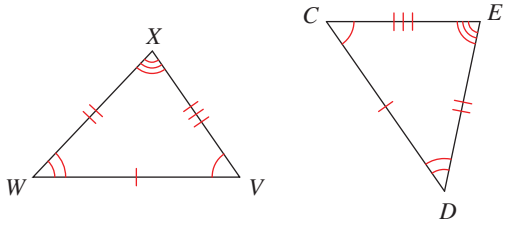
9)



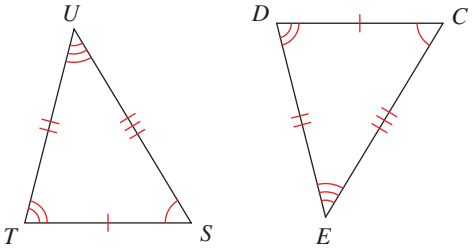
10)



11)

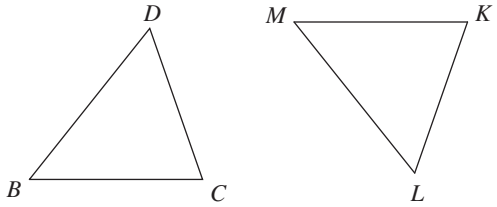


12)

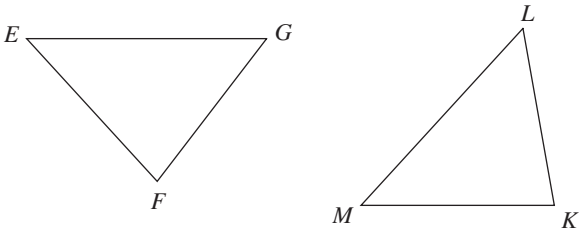


Mark the angles and sides of each pair of triangles to indicate that they are congruent.

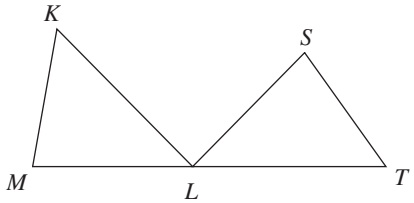
13) $\Delta BDC \cong \Delta MLK$



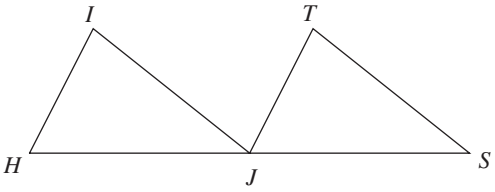
14) $\Delta GFE \cong \Delta LKM$



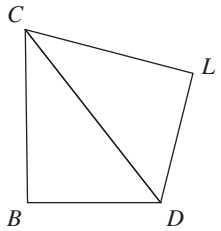
15) $\Delta MKL \cong \Delta STL$



16) $\Delta HIJ \cong \Delta JTS$



17) $\Delta CDB \cong \Delta CDL$



18) $\Delta JIK \cong \Delta JCD$