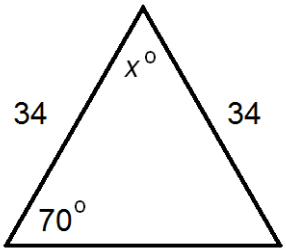
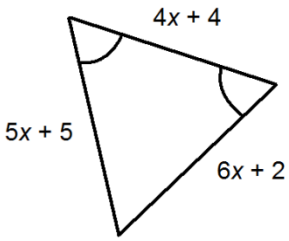
Name _____ Date _____ Period ____

DIRECTIONS: For #1-5, use the accompanying diagrams to solve for x. Show work.

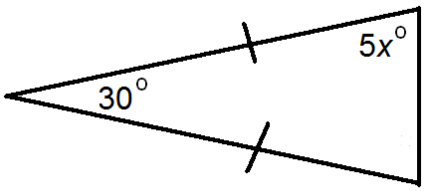
1. $x =$ _____



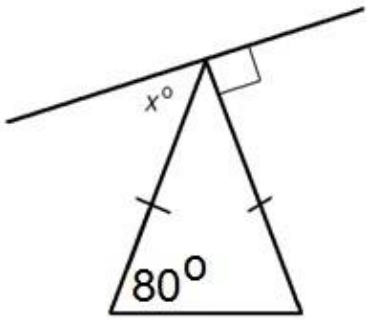
2. $x =$ _____



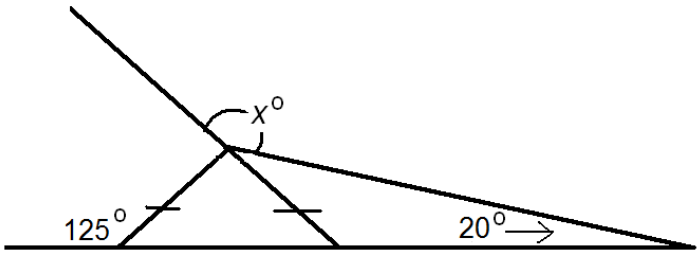
3. $x =$ _____



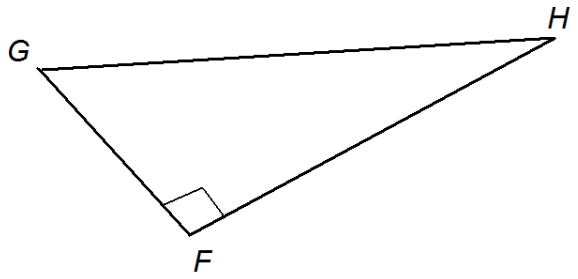
4. $x =$ _____



5. $x =$ _____



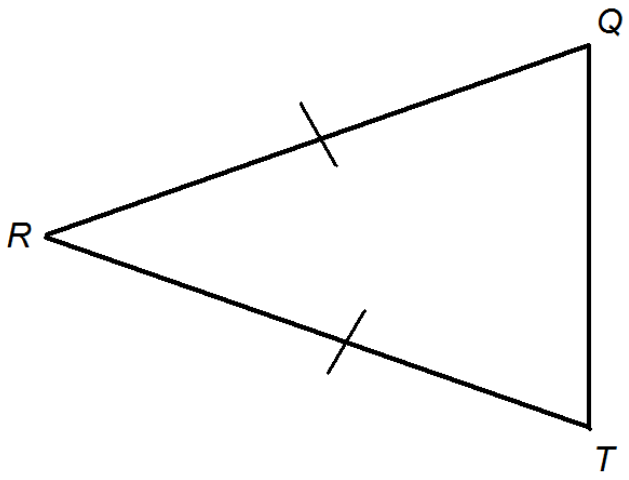
DIRECTIONS: For #6-7, use the following diagram



6. Name the hypotenuse of ΔFGH. _____

7. Name the legs of ΔFGH. _____

DIRECTIONS: For #8-11, use the following diagram



8. Name a base angle of ΔQRT. _____

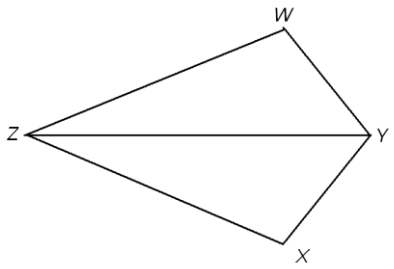
9. Name the base of ΔQRT. _____

10. Name the vertex angle of ΔQRT. _____

11. Name a leg of ΔQRT. _____

DIRECTIONS: For #12-16, use the given information and diagrams to decide whether or not two triangles must be congruent. If they are, write an accurate congruence statement ($\Delta LMN \cong \Delta PQR$, for example) and name the postulate/theorem (SSS, SAS, ASA, AAS, or HL) that justifies your answer. If the triangles are not congruent, write the word "**none"** in both blanks.

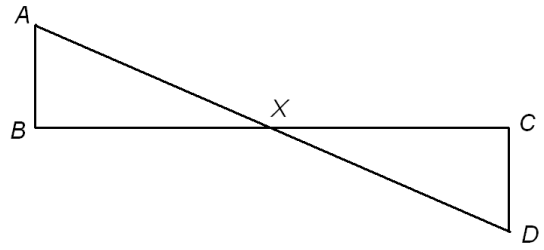
12. $\overline{YZ}$ bisects $\measuredangle WYX$; $\overline{WY} \cong \overline{XY}$



$\cong$ triangles are… _____

justified by… _____

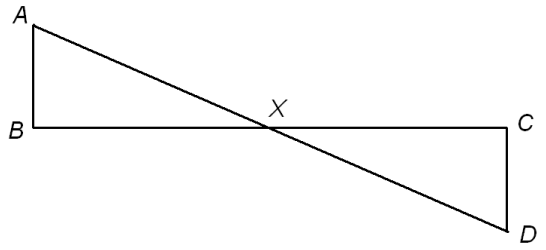
13. X is the midpoint of $\overline{BC}$; $\overline{AB} \parallel \overline{DC}$



$\cong$ triangles are… _____

justified by… _____

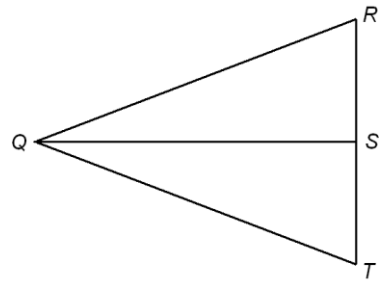
14. $\overline{AB} \parallel \overline{DC}$



$\cong$ triangles are… _____

justified by… _____

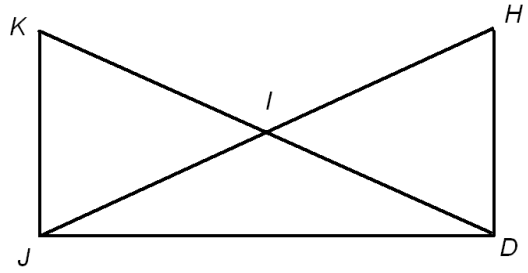
15. $\overline{QR} \cong \overline{QT}$; $\overline{QS} \perp \overline{RT}$



$\cong$ triangles are… _____

justified by… _____

16. $\overline{JK} \cong \overline{DH}$; $\overline{JH} \cong \overline{KD}$

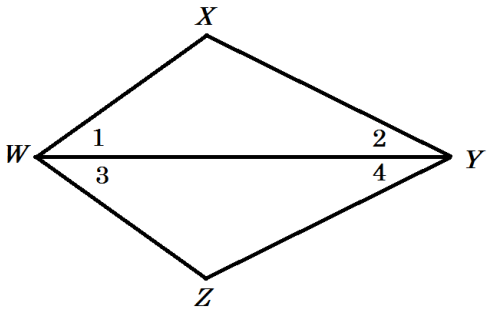


$\cong$ triangles are… _____

justified by… _____

DIRECTIONS: For #17-18, write complete two-column proofs. Be neat. Show work on the diagrams.

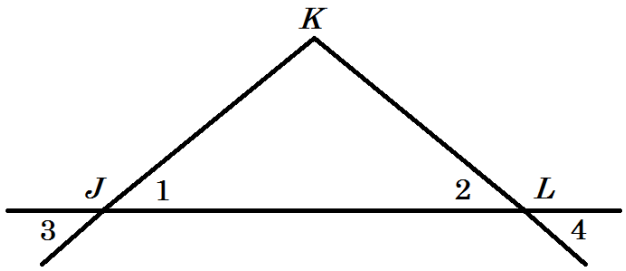
17



Given: $\overline{WY}$ bisects $\measuredangle XWZ$; $\overline{XW} \cong \overline{ZW}$

Prove: $\overline{YW}$ bisects $\measuredangle XYZ$

18



Given: $\overline{JK} \cong \overline{LK}$;

Prove: $\measuredangle 3 \cong \measuredangle 4$