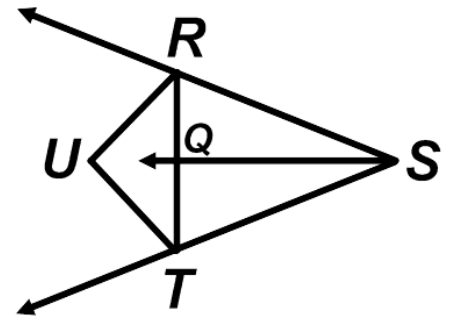


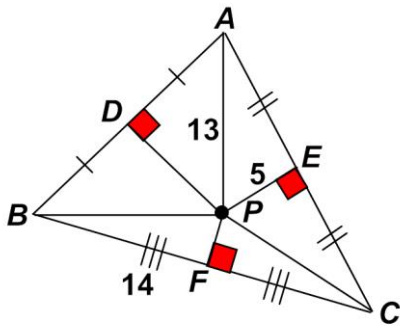
Use the diagram to answer #1 – 3.

1. If  $\overleftrightarrow{SQ}$  is the perpendicular bisector of  $\overline{RT}$ , explain how you would know that  $\overline{RQ} \cong \overline{TQ}$  and  $\overline{RS} \cong \overline{TS}$ .
2. If  $\overline{UR} \cong \overline{UT}$ , what can you conclude about point  $U$ ?
3. If point  $Q$  is equidistant from  $\overline{SR}$  and  $\overline{ST}$ , what can you conclude about point  $Q$ .
4. If  $SQ = 8$  and  $TQ = 4$ , find the simplified length of  $QS$ .

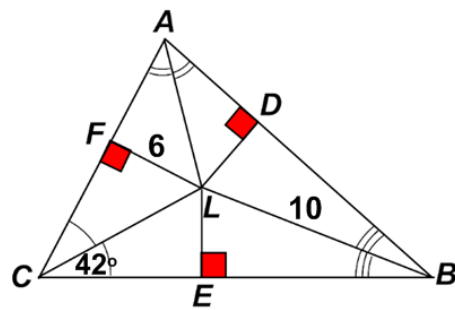


Find the following for each diagram.

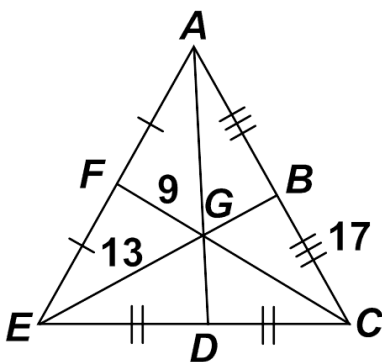
5.  $BP = \underline{\hspace{2cm}}$   $BC = \underline{\hspace{2cm}}$   $EC = \underline{\hspace{2cm}}$



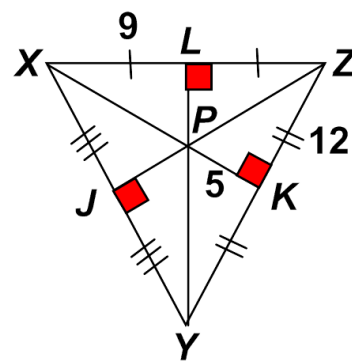
6.  $DL = \underline{\hspace{2cm}}$   $LE = \underline{\hspace{2cm}}$   $m\angle FCE = \underline{\hspace{2cm}}$



7.  $AC = \underline{\hspace{2cm}}$   $BG = \underline{\hspace{2cm}}$   $GC = \underline{\hspace{2cm}}$   
 $EB = \underline{\hspace{2cm}}$   $FC = \underline{\hspace{2cm}}$   $AB = \underline{\hspace{2cm}}$



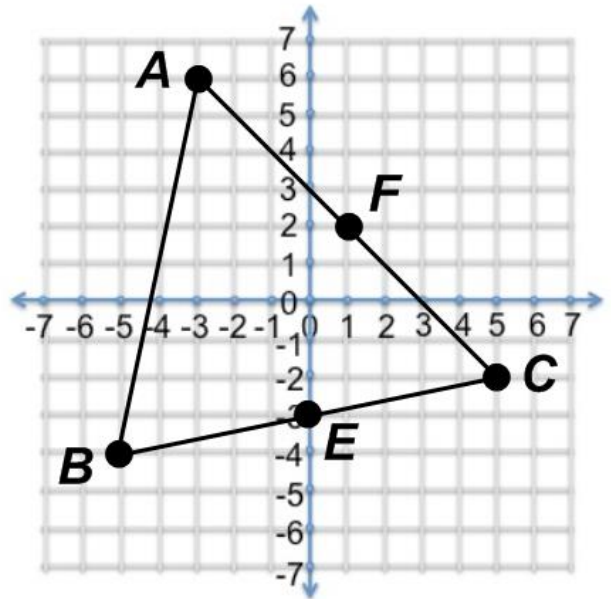
8.  $YZ = \underline{\hspace{2cm}}$   $PZ = \underline{\hspace{2cm}}$   $PJ = \underline{\hspace{2cm}}$   
 $XP = \underline{\hspace{2cm}}$   $XK = \underline{\hspace{2cm}}$   $LZ = \underline{\hspace{2cm}}$



Use the graph shown for #9 – 15.

9. Find the coordinates of  $D$ , the midpoint of  $\overline{AB}$  and label it on the graph.

10. Find the length of  $AB$ ,  $BC$ , and  $AC$ . Label the lengths on the graph.



11. Point  $E$  is the midpoint of  $\overline{BC}$  and Point  $F$  is the midpoint of  $\overline{AC}$ . Find the following.

$AF = \underline{\hspace{2cm}}$   $FC = \underline{\hspace{2cm}}$   $AG = \underline{\hspace{2cm}}$   $BG = \underline{\hspace{2cm}}$   $BE = \underline{\hspace{2cm}}$   $EC = \underline{\hspace{2cm}}$

12. Prove that  $\overline{AC} \parallel \overline{DE}$ .

13. If  $\overline{AC} \parallel \overline{DE}$ ,  $\overline{BC} \parallel \overline{DF}$ , and  $\overline{AB} \parallel \overline{FE}$ , find the midsegments of  $DE = \underline{\hspace{2cm}}$   $EF = \underline{\hspace{2cm}}$   $DF = \underline{\hspace{2cm}}$ .

14. Name the angles of  $\triangle ABC$  from largest to smallest.

                    ,                     ,                       
 Largest      Medium      Smallest

15. Perimeter of  $\triangle ABC$  is                     .

16. A. Find the shortest and longest possible measures of  $\triangle ABC$  with  $AC = 50$  and  $BC = 42$ .

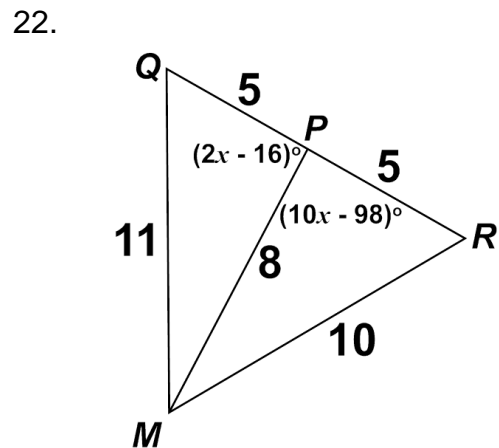
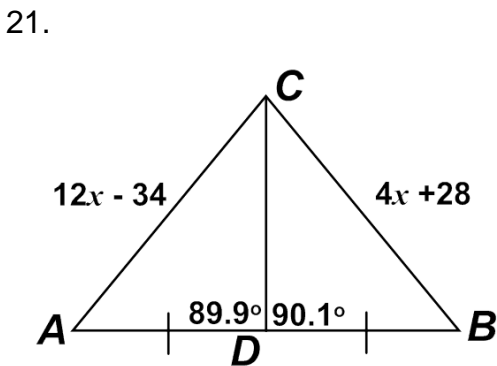
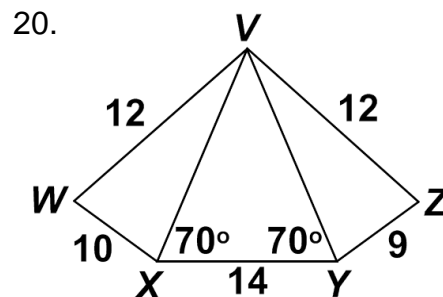
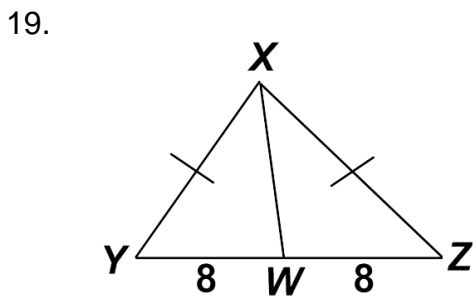
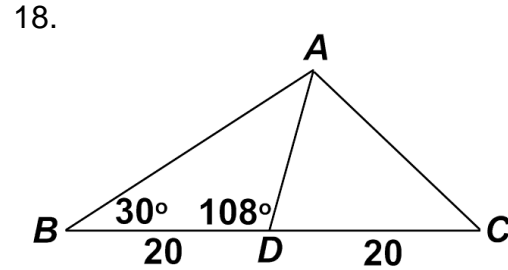
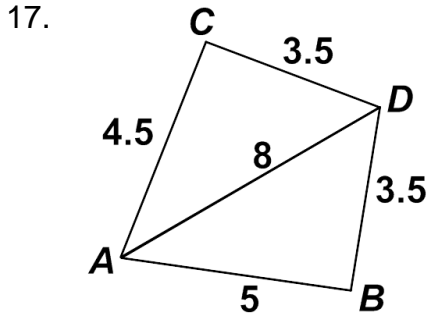
Shortest \_\_\_\_\_

Longest \_\_\_\_\_

B. If  $AB = 9$ , list the angles of  $\triangle ABC$  from largest to smallest.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
Largest    Medium    Smallest

Write an inequality to describe a restriction on the value of  $x$  as determined by the Hinge Theorem or its converse.



Determine whether it is possible to draw a triangle with sides of the given lengths. Explain.

23. 4.6, 5.12, 9.7

24. 4, 9, 13

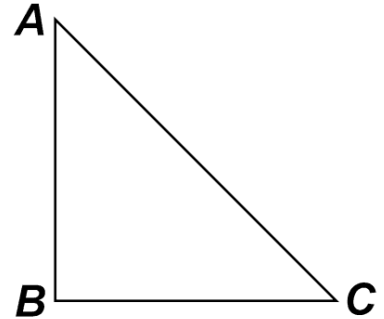
25. 12, 6.02, 6.002

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Write an indirect proof.

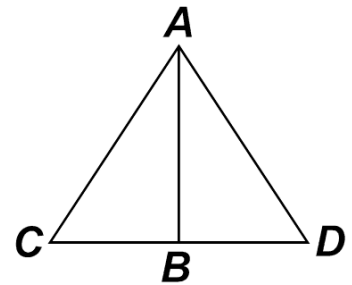
26. Given:  $m\angle A = 40^\circ$   
 $m\angle C = 60^\circ$

Prove:  $\angle B$  is NOT a right angle



27. Given:  $B$  is the midpoint of  $\overline{CD}$   
 $\angle C$  is NOT  $\cong$  to  $\angle D$

Prove:  $\angle CBA$  is NOT  $\cong$  to  $\angle DBA$



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Fill in the blank.

28. The point of concurrency of a triangle with 3 altitudes is called \_\_\_\_\_.

29. The point of concurrency of a triangle with 3 medians is called \_\_\_\_\_.

30. The point of concurrency of a triangle with 3 perpendicular bisectors is called \_\_\_\_\_.