Geometry
5.2 WORKSHEET

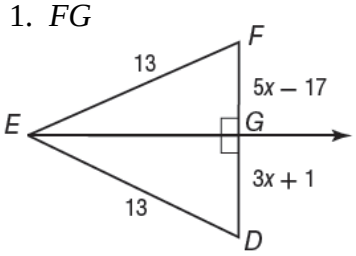
Name: _____

Use Perpendicular Bisectors

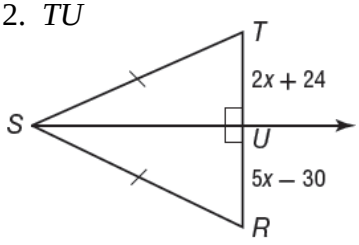
★ *I can use perpendicular bisectors of triangles to solve problems.*★

Find each measure.

1. *FG*

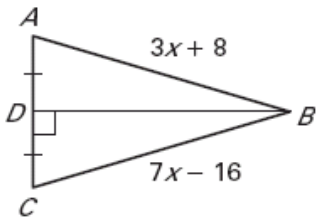


2. *TU*

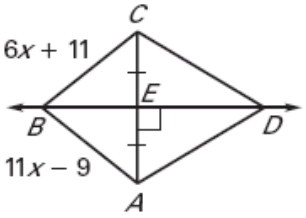


Find the length of $\overline{AB}$.

3.



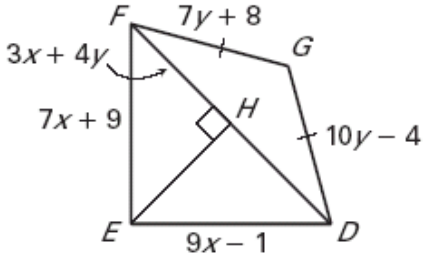
4.



Use the diagram below. $\overline{EH}$ is the perpendicular bisector of $\overline{DF}$. Find the indicated measure.

5. Find *EF*.

6. Find *DE*.



7. Find *FG*.

8. Find *DG*.

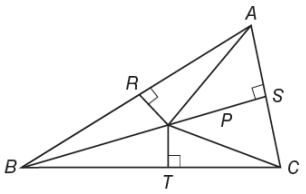
9. Find *FH*.

10. Find *DF*.

★ *I can use the perpendicular bisectors point of concurrency, the circumcenter, to find segment lengths.*★

Point *P* is the circumcenter of ΔABC. List any segment(s) congruent to each segment below.

11. $\overline{BR}$ 12. $\overline{CS}$ 13. $\overline{BP}$



In the diagram, the perpendicular bisectors of ΔABC meet at point *G* and are shown dashed. Find the indicated measure.

14. Find *AG*.

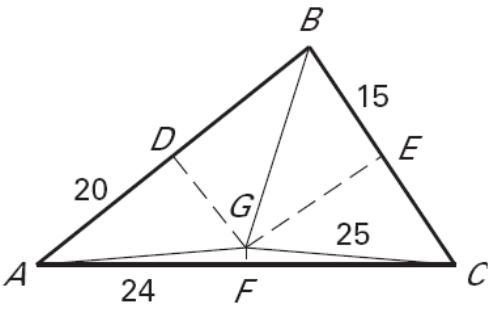
15. Find *BD*.

16. Find *CF*.

17. Find *BG*.

18. Find *CE*.

19. Find *AC*.



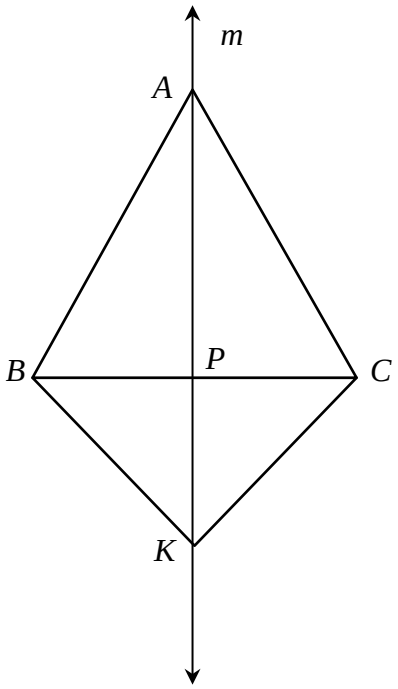
20. In the diagram below, *m* is the perpendicular bisector of $\overline{BC}$.

a. Mark 3 pairs of congruent segments and a perpendicular into the diagram.

b. If *AB* = 19, then *AC* = _____.

c. Is $\Delta ABK \cong \Delta ACK$? Justify.

d. If $BK = 5x$, $AC = 6x + 7$, $CP = 4x$, $AB = 9x - 14$. Find *x*, *KC*, *AB*, *AC*, and *BC*.



e. Using the measures you found in part d, find *PK*.