

5.2 Practice A

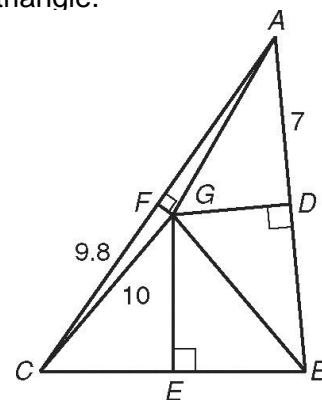
Bisectors of Triangles

Fill in the blanks to complete each definition or theorem.

- The circumcenter of a triangle is equidistant from the _____ of the triangle.
- When three or more lines _____ at one point, the lines are said to be concurrent.
- The incenter of a triangle is the point where the three _____ bisectors of a triangle are concurrent.
- The _____ of a triangle is equidistant from the sides of the triangle.
- The _____ of a triangle is the point where the three perpendicular bisectors of a triangle are concurrent.

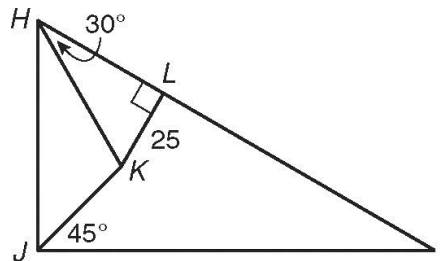
Use the figure for Exercises 6–8. \overline{DG} , \overline{EG} , and \overline{FG} are perpendicular bisectors of $\triangle ABC$. Find each length.

- AG _____
- DB _____
- AF _____
- GB _____



Use the figure for Exercises 10–13. \overline{HK} and \overline{JK} are angle bisectors of $\triangle HIJ$. Find each measure.

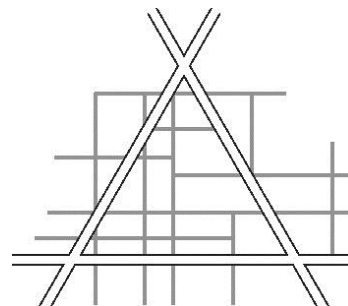
- the distance from K to \overline{JI} _____
- $m\angle HJK$ _____
- $m\angle JHK$ _____
- $m\angle HJI$ _____



Millsville is a town with three large streets that form a triangle. The town council wants to place a fire station so that it is the same distance from each of the three streets.

- Why would the town council want the fire station equidistant from the large streets?

- Tell whether the circumcenter or the incenter of the triangle should be the location of the fire station. _____
- Bisect each angle of the figure to find the location of the firehouse. You may use a compass and straightedge or a protractor.



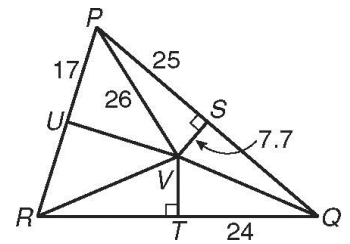
Use the figure for Exercises 1 and 2. \overline{SV} , \overline{TV} , and \overline{UV} are perpendicular bisectors of the sides of $\triangle PQR$. Find each length.

17. RV _____

18. TR _____

19. PQ _____

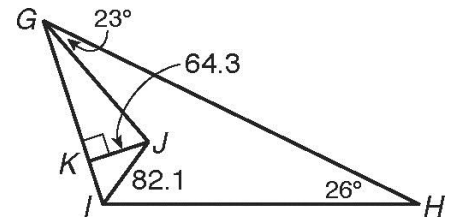
20. VQ _____



Use the figure for Exercises 7 and 8. \overline{GJ} and \overline{IJ} are angle bisectors of $\triangle GHI$. Find each measure.

21. the distance from J to \overline{GH} _____

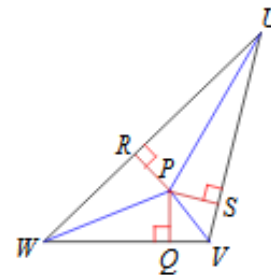
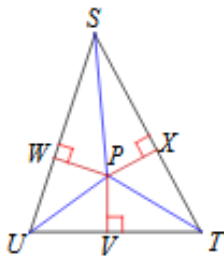
22. $m\angle JGK$ _____



Each figure shows a triangle with its three angle bisectors intersecting at point P.

23) Find PX if $PW = 4$.

24) $PR = 9$. Find PQ .



25) Find PH if $PG = 7$.

26) Find PE if $PF = 6$.

