

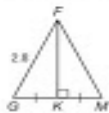
5-1 Study Guide and Intervention

Bisectors of Triangles

Perpendicular Bisector A perpendicular bisector is a line, segment, or ray that is perpendicular to the given segment and passes through its midpoint. Some theorems deal with perpendicular bisectors.

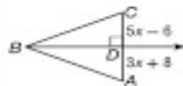
Perpendicular Bisector Theorem	If a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment.
Converse of Perpendicular Bisector Theorem	If a point is equidistant from the endpoints of a segment, then it is on the perpendicular bisector of the segment.
Circumcenter Theorem	The perpendicular bisectors of the sides of a triangle intersect at a point called the circumcenter that is equidistant from the vertices of the triangle.

Example 1 Find the measure of FM .



\overline{FK} is the perpendicular bisector of \overline{GM} .
 $FG = FM$
 $2.8 = FM$

Example 2 \overline{BD} is the perpendicular bisector of \overline{AC} . Find x .

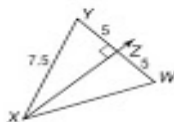


$$\begin{aligned} AD &= DC \\ 3x + 8 &= 5x - 6 \\ 14 &= 2x \\ 7 &= x \end{aligned}$$

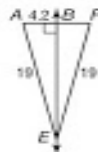
Exercises

Find each measure.

1. XW



2. BF



Point P is the circumcenter of $\triangle EMK$. List any segment(s) congruent to each segment below.

3. \overline{MY}

4. \overline{KP}

5. \overline{MN}

6. \overline{ER}

