

Section 5.1 Notes - Perpendicular & Angle Bisectors

TLW apply theorems & properties of perpendicular bisectors

TLW apply theorems & properties of angle bisectors

Perpendicular & Angle Bisectors are SUPER GROOVY!!

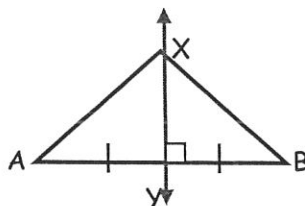


THEOREMS - PERPENDICULAR BISECTORS

Perpendicular Bisector Theorem

If a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment.

IF



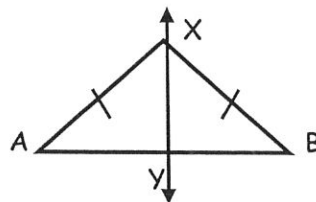
THEN

$$XA = XB$$

Converse of the Perpendicular Bisector Theorem

If a point is equidistant from the endpoints of a segment, then it is on the perpendicular bisector of the segment.

IF



THEN

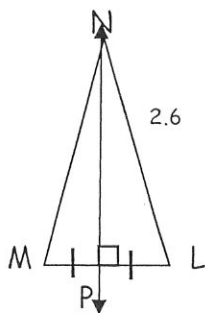
$$\begin{aligned} XY &\perp AB \\ YA &= YB \end{aligned}$$

WHEN A POINT IS THE SAME DISTANCE FROM TWO OR MORE OBJECTS, THE POINT IS SAID TO BE _____ FROM THE OBJECTS.

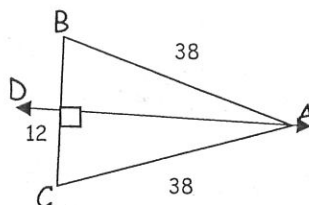
~ PRACTICE ~

Find each measure.

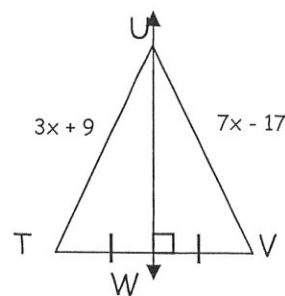
(a) $MN = \underline{\hspace{2cm}}$



(b) $BC = \underline{\hspace{2cm}}$



(c) $TU = \underline{\hspace{2cm}}$

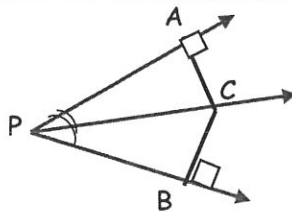


THEOREMS - ANGLE BISECTORS

Angle Bisector Theorem

If a point is on the bisector of an angle, then it is equidistant from the sides of the angle.

IF



$$\angle APC = \angle BPC$$

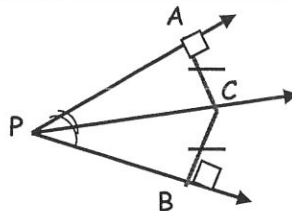
THEN

$$AC = BC$$

Converse of the Angle Bisector Theorem

If a point in the interior of an angle is equidistant from the sides of the angle, then it is on the bisector of the angle.

IF



$$AC = BC$$

THEN

$$\angle APC = \angle BPC$$

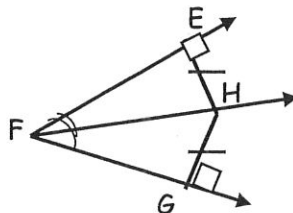
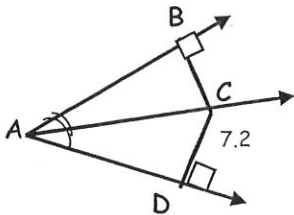
~ Practice ~

Find each measure.

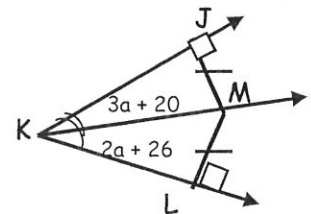
(d) $BC = \underline{\hspace{2cm}}$

(e) $m\angle EFH = \underline{\hspace{2cm}}$

(f) $m\angle MKL = \underline{\hspace{2cm}}$



Given: $m\angle EFG = 50$



GUIDED PRACTICE ASSIGNMENT - PG. 304 #'s 2 - 7, 12 - 17

