

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples	
PERPENDICULAR BISECTOR <i>Theorems</i>	Perpendicular Bisector Theorem If a point lies on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment. If $\overleftrightarrow{CD} \perp \overline{AB}$ and $AD = BD$, then _____.	
	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 $CA = CB$, then a line exists through C such that _____ and _____.	
1. Find the value of x. 	2. Find the value of x. 	
3. Find RS. 	4. Find EG. 	
5. Find AB. 	6. Find JK. 	

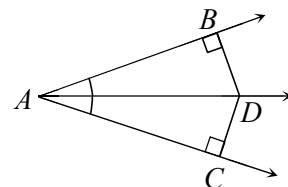
7. If $\overline{JK}$ is formed by $J(-7, -8)$ and $K(1, 4)$, determine if $L(-9, 2)$ lies on the perpendicular bisector of $\overline{JK}$.

ANGLE BISECTOR *Theorems*

Angle Bisector Theorem

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

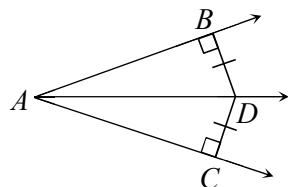
If $\overrightarrow{AD}$ bisects $\angle BAC$, $\overline{AB} \perp \overline{BD}$, and $\overline{AC} \perp \overline{CD}$,
then _____.



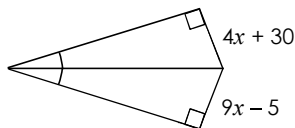
Converse of the Angle Bisector Theorem

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

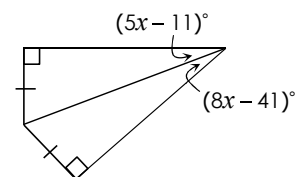
If $BD = CD$, $\overline{AB} \perp \overline{BD}$, and $\overline{AC} \perp \overline{CD}$,
then _____.



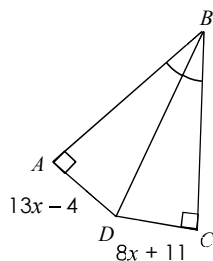
8. Find the value of x .



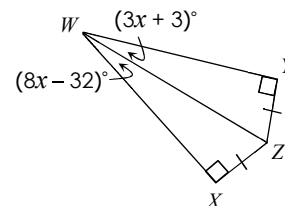
9. Find the value of x .



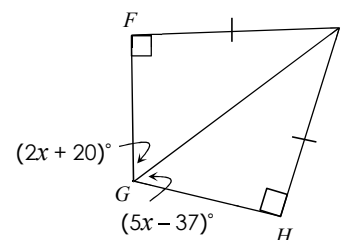
10. Find AD .



11. Find $m\angle XWZ$.



12. Find $m\angle FGH$.



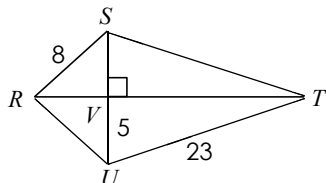
Name: _____

Unit 5: Relationships in Triangles

Date: _____ Per: _____

Homework 2: Perpendicular & Angle Bisectors

** This is a 2-page document! **

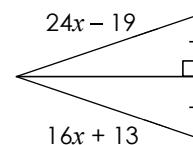
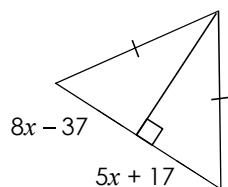
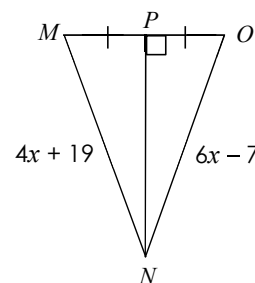
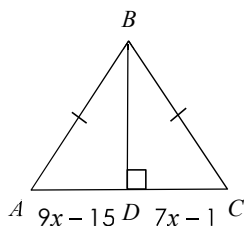
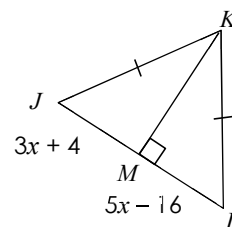
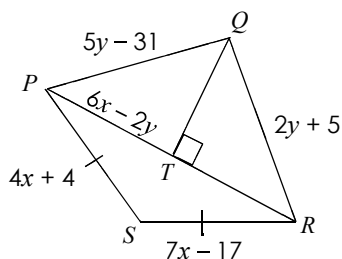
1. If $\overline{RT}$ bisects $\overline{SU}$, find each measure.

$ST = \underline{\hspace{2cm}}$

$RU = \underline{\hspace{2cm}}$

$SV = \underline{\hspace{2cm}}$

$SU = \underline{\hspace{2cm}}$

2. Find x .3. Find x .4. Find MN .5. Find CD .6. Find JL .7. If $\overline{QT}$ is the perpendicular bisector of $\overline{PR}$, find each measure.

$x = \underline{\hspace{2cm}}$

$y = \underline{\hspace{2cm}}$

$PQ = \underline{\hspace{2cm}}$

$QR = \underline{\hspace{2cm}}$

$PS = \underline{\hspace{2cm}}$

$SR = \underline{\hspace{2cm}}$

$PT = \underline{\hspace{2cm}}$

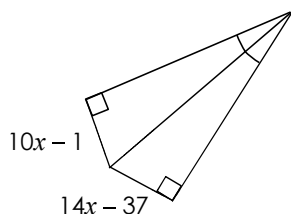
$PR = \underline{\hspace{2cm}}$

For questions 8 and 9, determine if S could lie on the perpendicular bisector of $\overline{QR}$ with the given coordinates.

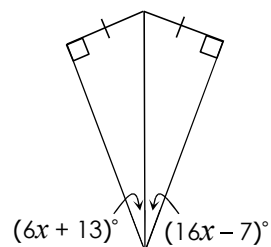
8. $Q(-5, -1)$, $R(3, 7)$, $S(4, -2)$

9. $Q(-5, 4)$, $R(8, -3)$, $S(-2, -5)$

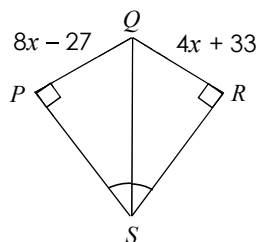
10. Find x .



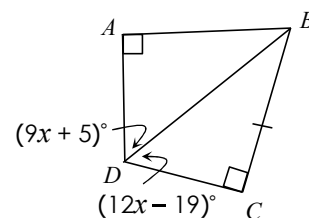
11. Find x .



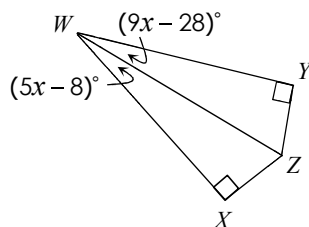
12. Find PQ .



13. Find $m\angle BDC$.



14. Find $m\angle YWX$.



15. Find ML .

