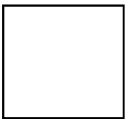


Name: _____

Unit 1: Geometry Basics

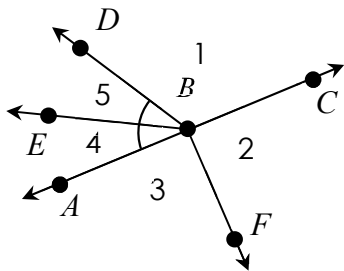


Date: _____ Per: _____

Homework 4: Angle Addition Postulate

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

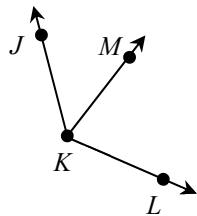
1. Use the diagram below to complete each part.



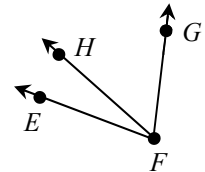
* $\overrightarrow{BF} \perp \overrightarrow{AC}$

- a) Name the vertex of $\angle 4$. _____
- b) Name the sides of $\angle 1$. _____
- c) Write another name for $\angle 5$. _____
- d) Classify each angle:
 $\angle FBC$: _____ $\angle EBF$: _____ $\angle ABC$: _____
- e) Name an angle bisector. _____
- f) If $m\angle EBD = 36^\circ$ and $m\angle DBC = 108^\circ$, find $m\angle EBC$. _____
- g) If $m\angle EBF = 117^\circ$, find $m\angle ABE$. _____

2. If $m\angle MKL = 83^\circ$, $m\angle JKL = 127^\circ$, and $m\angle JKM = (9x - 10)^\circ$, find the value of x .

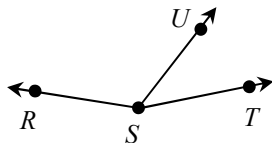


3. If $m\angle EFH = (5x + 1)^\circ$, $m\angle HFG = 62^\circ$, and $m\angle EFG = (18x + 11)^\circ$, find each measure.



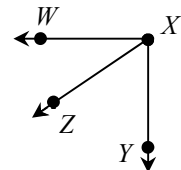
$x =$ _____
 $m\angle EFH =$ _____
 $m\angle EFG =$ _____

4. If $m\angle RST = (12x - 1)^\circ$, $m\angle RSU = (9x - 15)^\circ$, and $m\angle UST = 53^\circ$, find each measure.



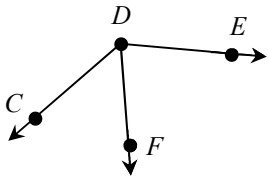
$x =$ _____
 $m\angle RST =$ _____
 $m\angle RSU =$ _____

5. If $m\angle WXZ = (5x + 3)^\circ$, $m\angle ZXY = (8x - 4)^\circ$, and $\angle WXY$ is a right angle, find each measure.



$x =$ _____
 $m\angle WXZ =$ _____
 $m\angle ZXY =$ _____

6. If $m\angle CDF = (3x + 14)^\circ$, $m\angle FDE = (5x - 2)^\circ$, and $m\angle CDE = (10x - 18)^\circ$, find each measure.



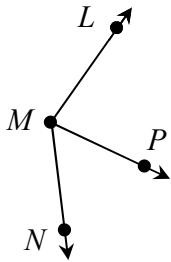
$$x = \underline{\hspace{2cm}}$$

$$m\angle CDF = \underline{\hspace{2cm}}$$

$$m\angle FDE = \underline{\hspace{2cm}}$$

$$m\angle CDE = \underline{\hspace{2cm}}$$

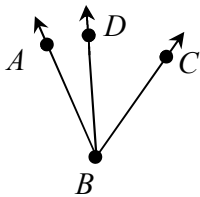
7. If $m\angle LMP$ is 11 degrees more than $m\angle NMP$ and $m\angle NML = 137^\circ$, find each measure.



$$m\angle LMP = \underline{\hspace{2cm}}$$

$$m\angle NMP = \underline{\hspace{2cm}}$$

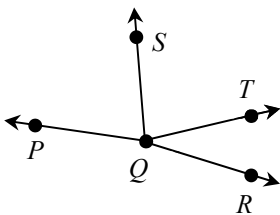
8. If $m\angle ABC$ is one degree less than three times $m\angle ABD$ and $m\angle DBC = 47^\circ$, find each measure.



$$m\angle ABD = \underline{\hspace{2cm}}$$

$$m\angle ABC = \underline{\hspace{2cm}}$$

9. If \overline{QS} bisects $\angle PQT$, $m\angle SQT = (8x - 25)^\circ$, $m\angle PQT = (9x + 34)^\circ$, and $m\angle SQR = 112^\circ$, find each measure.



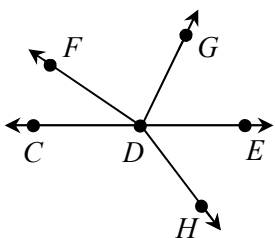
$$x = \underline{\hspace{2cm}}$$

$$m\angle PQS = \underline{\hspace{2cm}}$$

$$m\angle PQT = \underline{\hspace{2cm}}$$

$$m\angle TQR = \underline{\hspace{2cm}}$$

10. If $\angle CDE$ is a straight angle, \overline{DE} bisects $\angle GDH$, $m\angle GDE = (8x - 1)^\circ$, $m\angle EDH = (6x + 15)^\circ$, and $m\angle CDF = 43^\circ$, find each measure.



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

$$m\angle GDH = \underline{\hspace{2cm}}$$

$$m\angle FDH = \underline{\hspace{2cm}}$$

$$m\angle FDE = \underline{\hspace{2cm}}$$