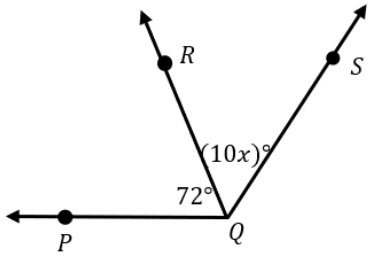
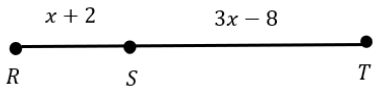
1.2/1.4 Angles/Justification & Reasoning and Proof Name_____

Show all work.

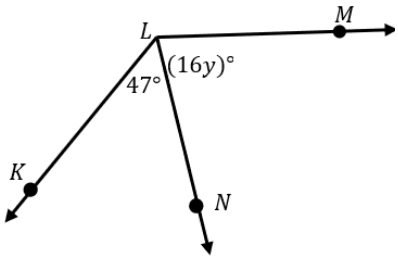
1. Find the value of x, given that $m\angle PQS = 112°$. $x =$ ____



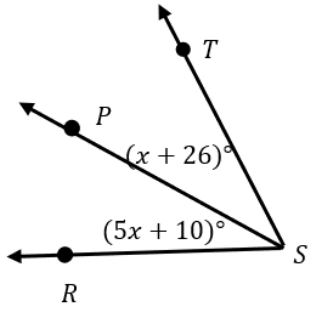
2. $RT = 5x - 12$. Find x. $x =$ ____



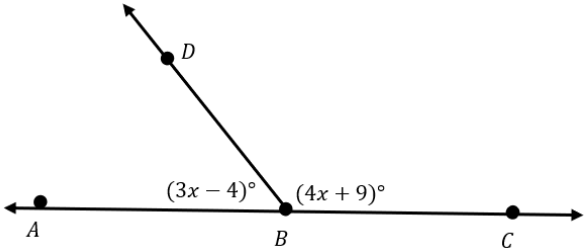
3. Find the value of y, given that $m\angle KLM = 135°$.
$y =$ ____



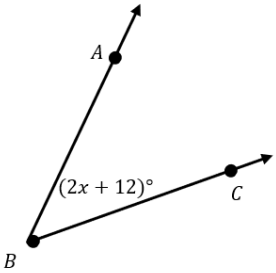
4. $\overrightarrow{SP}$ is the angle bisector of $\angle RST$. Find $m\angle RSP$.
$m\angle RSP =$ ____

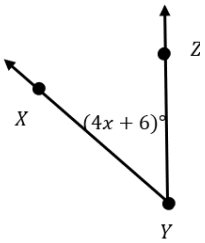


5. $\overrightarrow{BA}$ and $\overrightarrow{BC}$ are opposite rays. Find $m\angle CBD$.
$m\angle CBD =$ ____



6. $\angle ABC$ and $\angle XYZ$ are complementary. Find the measure of both angles. $\angle ABC =$ ____ $\angle XYZ =$ _____





For 7- 14, **draw a diagram** to help solve the problem. Tell which theorem/postulate/definition you used.

7. Point B is between points A and C. If $AB = x + 3, BC = 2x - 5$ and $AC = 4x - 5$, find x.

theorem/postulate/definition: _____ $x =$ ____

Pick from:
Angle addition postulate
Segment addition postulate
Definition of Supplementary
Definition of Complementary
Linear Pair Theorem
Definition of angle bisector
Definition of midpoint

8. Ray YW bisects $\angle XYZ$. If $m\angle XYW = (2x + 3)°$ and $m\angle XYZ = 62°$ find x.

theorem/postulate/definition: _____ $x =$ ____

9. Point Y is between points X and Z. If $XY = 2x + 1, YZ = x - 3$ and $XZ = 4x - 9$, find x.

theorem/postulate/definition: _____ $x =$ ____

10. Ray BD bisects $\angle ABC$. If $m\angle ABD = (4x + 1)°$ and $m\angle ABC = 90°$ find x.

theorem/postulate/definition: _____ $x =$ ____

11. Y is the midpoint of $\overline{XZ}$. If $XZ = 8x - 2$ and $YZ = 2x + 1$, find x.

theorem/postulate/definition: _____ $x =$ ____

12. $\angle ABC$ and $\angle CBD$ are a linear pair. If $m\angle ABC = m\angle CBD = 3x - 6$, find x.

theorem/postulate/definition: _____ $x =$ ____

13. $\angle X$ and $\angle Z$ are complementary. $m\angle X = (3x - 1)$and $m\angle Z = (2x + 16)$
Find the measure of both angles.

theorem/postulate/definition: _____ $m\angle X =$ ____ $m\angle Z =$ ____

14. $\angle A$ and $\angle B$ are supplementary. $m\angle A = (4x + 18)°$ and $m\angle B = (2x - 12)$
Find the measure of both angles.

theorem/postulate/definition: _____ $m\angle A =$ ____ $m\angle B =$ ____