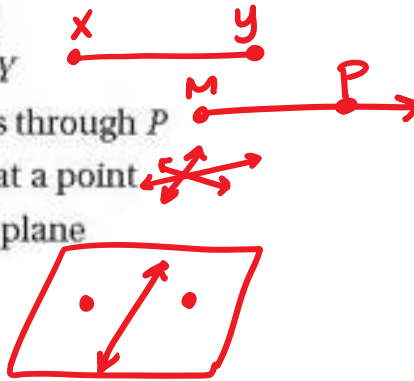


1-1 Understanding Points, Lines, and Planes

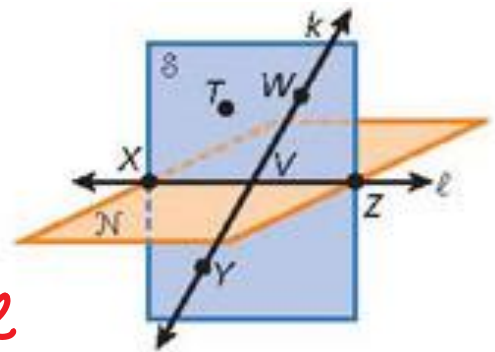
Draw and label each of the following.

- a segment with endpoints X and Y
- a ray with endpoint M that passes through P
- three coplanar lines intersecting at a point
- two points and a line that lie in a plane



Use the figure to name each of the following.

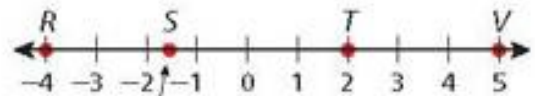
- three coplanar points w, v, y
- two lines \overleftrightarrow{xz} and \overleftrightarrow{wy}
- a plane containing $T, V,$ and X *plane TVW*
- a line containing V and Z \overleftrightarrow{xz} or plane ℓ



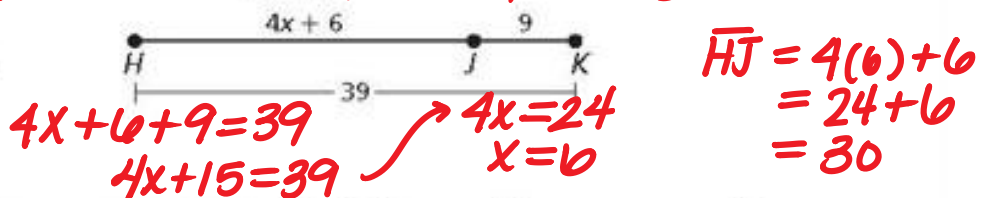
1-2 Measuring and Constructing Segments

Find the length of each segment.

9. \overline{SV} $|5 - (-1.5)| = 6.5$ 10. \overline{TR} $|2 - (-4)| = 6$ 11. \overline{ST} $|2 - (-1.5)| = 3.5$



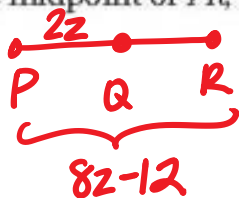
12. The diagram represents a straight highway with three towns, Henri, Joaquin, and Kenard. Find the distance from Henri H to Joaquin J .



- ~~13. Sketch, draw, and construct a segment congruent to \overline{CD} .~~



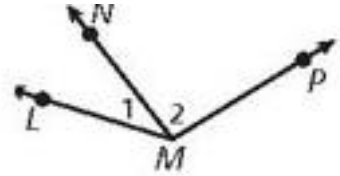
14. Q is the midpoint of \overline{PR} , $PQ = 2z$, and $PR = 8z - 12$. Find z , PQ , and PR .



$2z + 2z = 8z - 12$
 $4z = 8z - 12$
 $12 = 4z$
 $3 = z$

$\left. \begin{array}{l} \overline{PQ} = 2(3) = 6 \\ \overline{PR} = 8(3) - 12 = 12 \end{array} \right\}$

1-3 Measuring and Constructing Angles



15. Name all the angles in the diagram.

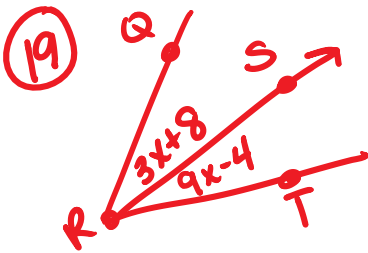
$\angle LMN, \angle NML, \angle 1, \angle NMP, \angle PMN, \angle 2, \angle M$

Classify each angle by its measure.

16. $m\angle PVQ = 21^\circ$ **angle** 17. $m\angle RVT = 96^\circ$ **obtuse** 18. $m\angle PVS = 143^\circ$ **obtuse**

19. \overrightarrow{RS} bisects $\angle QRT$, $m\angle QRS = (3x + 8)^\circ$, and $m\angle SRT = (9x - 4)^\circ$. Find $m\angle SRT$.

~~20.~~ Use a protractor and straightedge to draw a 130° angle. Then bisect the angle.



$$3x + 8 = 9x - 4$$

$$12 = 6x$$

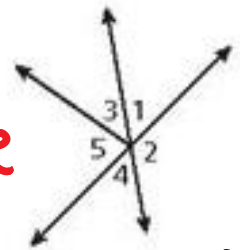
$$2 = x$$

$$\begin{aligned} m\angle SRT &= 9(2) - 4 \\ &= 18 - 4 \\ &= 14^\circ \end{aligned}$$

1-4 Pairs of Angles

Tell whether the angles are only adjacent, adjacent and form a linear pair, or not adjacent.

21. $\angle 1$ and $\angle 2$ **LP** 22. $\angle 4$ and $\angle 5$ **adj.** 23. $\angle 3$ and $\angle 4$ **none**



If $m\angle T = (5x - 10)^\circ$, find the measure of each of the following.

24. supplement of $\angle T$ $180 - (5x - 10)$
 $180 - 5x + 10$
 $190 - 5x$

25. complement of $\angle T$ $90 - (5x - 10)$
 $90 - 5x + 10$
 $100 - 5x$