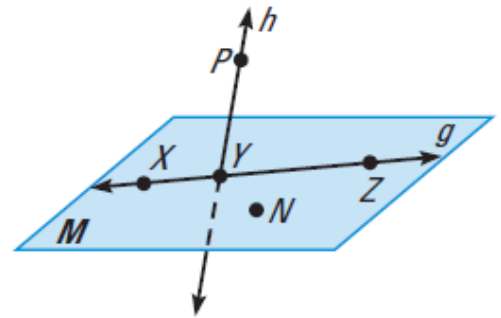


VOCABULARY EXERCISES

- Copy and complete: Points A and B are the ? of \overline{AB} .
- Draw an example of a *linear pair*.
- If Q is between points P and R on \overleftrightarrow{PR} , and $PQ = QR$, then Q is the ? of \overline{PR} .

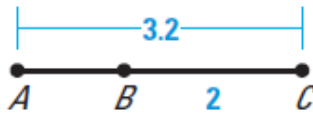
EXERCISES

- Give another name for line g .
- Name three points that are *not* collinear.
- Name four points that are coplanar.
- Name a pair of opposite rays.
- Name the intersection of line h and plane M .



Find the indicated length.

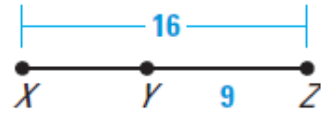
9. Find AB .



10. Find NP .



11. Find XY .



12. The endpoints of \overline{DE} are $D(-4, 11)$ and $E(-4, -13)$. The endpoints of \overline{GH} are $G(-14, 5)$ and $H(-9, 5)$. Are \overline{DE} and \overline{GH} congruent? *Explain.*

13. Point M is the midpoint of \overline{JK} . Find JK when $JM = 6x - 7$ and $MK = 2x + 3$.

In Exercises 14-17, the endpoints of a segment are given. Find the length of the segment rounded to the nearest tenth. Then find the coordinates of the midpoint of the segment.

14. $A(2, 5)$ and $B(4, 3)$

15. $F(1, 7)$ and $G(6, 0)$

AB =

FG =

Midpoint Coordinate:

Midpoint Coordinate:

16. $H(-3, 9)$ and $J(5, 4)$

17. $K(10, 6)$ and $L(0, -7)$

HJ =

KL =

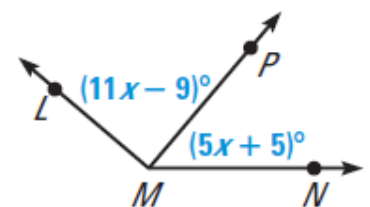
Midpoint Coordinate:

Midpoint Coordinate:

18. Point $C(3, 8)$ is the midpoint of \overline{AB} . One endpoint is $A(-1, 5)$. Find the coordinates of endpoint B .

19. The endpoints of \overline{EF} are $E(2, 3)$ and $F(8, 11)$. The midpoint of \overline{EF} is M . Find the length of \overline{EM} .

20. In the diagram shown at the right, $m\angle LMN = 140^\circ$. Find $m\angle PMN$.



21. \overrightarrow{VZ} bisects $\angle UVW$, and $m\angle UVZ = 81^\circ$. Find $m\angle UVW$. Then classify $\angle UVW$ by its angle measure.

$\angle 1$ and $\angle 2$ are complementary angles. Given the measure of $\angle 1$, find $m\angle 2$.

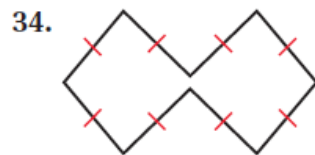
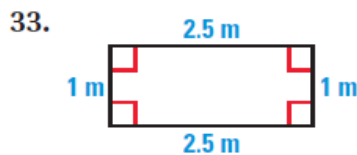
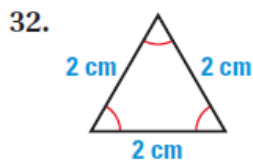
22. $m\angle 1 = 12^\circ$ 23. $m\angle 1 = 83^\circ$ 24. $m\angle 1 = 46^\circ$ 25. $m\angle 1 = 2^\circ$

$\angle 3$ and $\angle 4$ are supplementary angles. Given the measure of $\angle 3$, find $m\angle 4$.

26. $m\angle 3 = 116^\circ$ 27. $m\angle 3 = 56^\circ$ 28. $m\angle 3 = 89^\circ$ 29. $m\angle 3 = 12^\circ$

30. $\angle 1$ and $\angle 2$ are complementary angles. Find the measures of the angles when $m\angle 1 = (x - 10)^\circ$ and $m\angle 2 = (2x + 40)^\circ$.

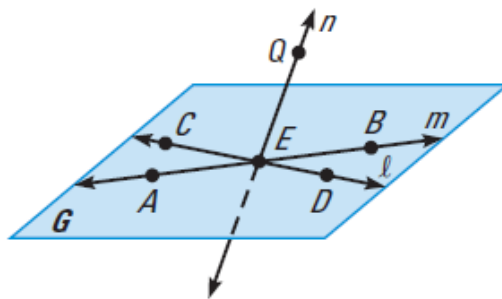
31. $\angle 1$ and $\angle 2$ are supplementary angles. Find the measures of the angles when $m\angle 1 = (3x + 50)^\circ$ and $m\angle 2 = (4x + 32)^\circ$. Then classify $\angle 1$ by its angle measure.



35. Pentagon $ABCDE$ is a regular polygon. The length of \overline{BC} is represented by the expression $5x - 4$. The length of \overline{DE} is represented by the expression $2x + 11$. Find the length of \overline{AB} .

Use the diagram to decide whether the statement is *true* or *false*.

- Point A lies on line m .
- Point D lies on line n .
- Points B , C , E , and Q are coplanar.
- Points C , E , and B are collinear.
- Another name for plane G is plane QEC .

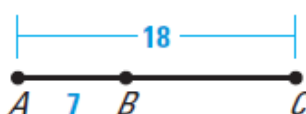


Find the indicated length.

6. Find HJ .



7. Find BC .



8. Find XZ .



In Exercises 9–11, find the distance between the two points.

9. $T(3, 4)$ and $W(2, 7)$

10. $C(5, 10)$ and $D(6, -1)$

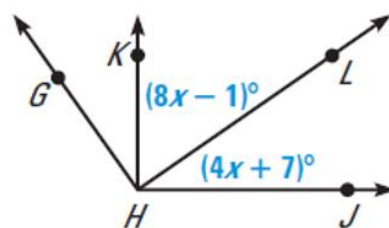
11. $M(-8, 0)$ and $N(-1, 3)$

12. The midpoint of \overline{AB} is $M(9, 7)$. One endpoint is $A(3, 9)$. Find the coordinates of endpoint B .

13. Line t bisects \overline{CD} at point M , $CM = 3x$, and $MD = 27$. Find CD .

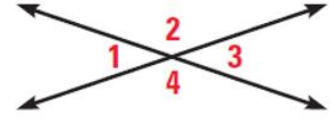
In Exercises 15, use the diagram.

15. Given $m\angle KHJ = 90^\circ$, find $m\angle LHJ$.



16. The measure of $\angle QRT$ is 154° , and \overline{RS} bisects $\angle QRT$. What are the measures of $\angle QRS$ and $\angle SRT$?

In Exercises 17 and 18, use the diagram at the right.



17. Name four linear pairs.

18. Name two pairs of vertical angles.

19. The measure of an angle is 64° . What is the measure of its complement? What is the measure of its supplement?

20. A convex polygon has half as many sides as a concave 10-gon. Draw the concave polygon and the convex polygon. Classify the convex polygon by the number of sides it has.