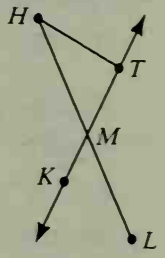
Written Exercises

The numbers given are the coordinates of two points on a number line. State the distance between the points.

A **1.** -6 and 9 **2.** -3 and -17 **3.** -1.2 and -5.7 **4.** -2.5 and 4.6

In the diagram, $\overline{HL}$ and $\overleftrightarrow{KT}$ intersect at the midpoint of $\overline{HL}$. Classify each statement as true or false.

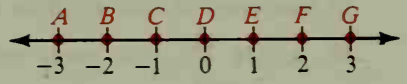


Exs. 5–18

5. $\overline{LM} \cong \overline{MH}$
6. KM must equal MT.
7. $\overline{MT}$ bisects $\overline{LH}$.
8. $\overleftrightarrow{KT}$ is a bisector of $\overline{LH}$.
9. $\overrightarrow{MT}$ and $\overrightarrow{TM}$ are opposite rays.
10. $\overrightarrow{MT}$ and $\overrightarrow{MK}$ are opposite rays.
11. $\overleftrightarrow{LH}$ is the same as $\overline{HL}$.
12. $\overrightarrow{KT}$ is the same as $\overrightarrow{KM}$.
13. $\overleftrightarrow{KT}$ is the same as $\overleftrightarrow{KM}$.
14. $\overline{KT}$ is the same as $\overline{KM}$.
15. $HM + ML = HL$
16. $TM + MH = TH$
17. T is between H and M.
18. M is between K and T.

Name each of the following.

19. The point on $\overrightarrow{DA}$ whose distance from D is 2
20. The point on $\overrightarrow{DG}$ whose distance from D is 2
21. Two points whose distance from E is 2
22. The ray opposite to $\overrightarrow{BE}$
23. The midpoint of $\overline{BF}$
24. The coordinate of the midpoint of $\overline{BD}$
25. The coordinate of the midpoint of $\overline{AE}$
26. A segment congruent to $\overline{AF}$



Exs. 19–26

In Exercises 27–30 draw $\overline{CD}$ and $\overline{RS}$ so that the conditions are satisfied.

27. $\overline{CD}$ and $\overline{RS}$ intersect, but neither segment bisects the other.
28. $\overline{CD}$ and $\overline{RS}$ bisect each other.
29. $\overline{CD}$ bisects $\overline{RS}$, but $\overline{RS}$ does not bisect $\overline{CD}$.
30. $\overline{CD}$ and $\overline{RS}$ do not intersect, but $\overrightarrow{CD}$ and $\overrightarrow{RS}$ do intersect.

B **31.** In the diagram, $\overline{PR} \cong \overline{RT}$, S is the midpoint of $\overline{RT}$, $QR = 4$, and $ST = 5$. Complete.
a. $RS =$ ___? ___ **b.** $RT =$ ___?___
c. $PR =$ ___?___ **d.** $PQ =$ ___?___

32. In the diagram, X is the midpoint of $\overline{VZ}$, $VW = 5$, and $VY = 20$. Find the coordinates of W, X, and Y.