

Section 3.4: Page 175

key

#2, 3, 6, 7, 10, 12

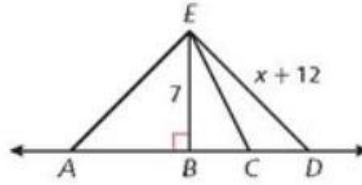
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#2-5, 7, 27

X **Vocabulary** \overleftrightarrow{CD} is the perpendicular bisector of \overline{AB} . \overleftrightarrow{CD} intersects \overline{AB} at C. What can you say about \overline{AB} and \overleftrightarrow{CD} ? What can you say about \overline{AC} and \overline{BC} ?

2. Name the shortest segment from point E to \overline{AD} . **EB**

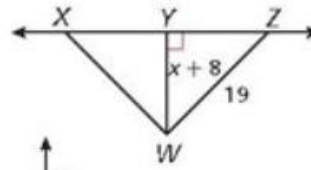
3. Write and solve an inequality for x.



$$\begin{array}{r} 7 < x + 12 \\ -12 \quad -12 \\ \hline -5 < x \end{array}$$

6. Name the shortest segment from point W to \overline{XZ} . **WY**

7. Write and solve an inequality for x.

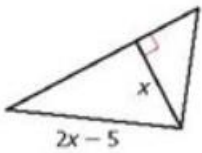


X Complete the two-column proof below.

$$\begin{array}{r} x + 8 < 19 \\ -8 \quad -8 \\ \hline x < 11 \end{array}$$

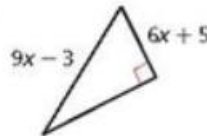
For each diagram, write and solve an inequality for x.

10.



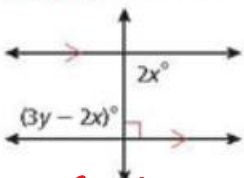
$$\begin{array}{r} x < 2x - 5 \\ -2x \quad -2x \\ \hline -x < -5 \\ -1 \quad -1 \\ \hline x > 5 \end{array}$$

X



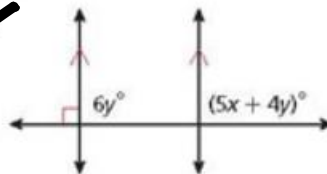
Multi-Step Solve to find x and y in each diagram.

12.



$$\begin{array}{r} 2x = 90 \\ \frac{2}{2} \quad \frac{2}{2} \\ \hline x = 45 \end{array}$$

X



$$\begin{array}{l} 3y - 2x = 90 \\ 3y - 2(45) = 90 \\ 3y - 90 = 90 \\ 3y = 180 \\ y = 60 \end{array}$$

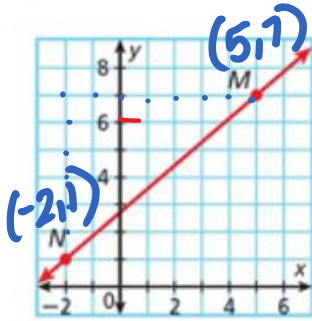
1

Vocabulary The *slope* of a line is the ratio of its ? to its ?. (*rise or run*)

Use the slope formula to determine the slope of each line.

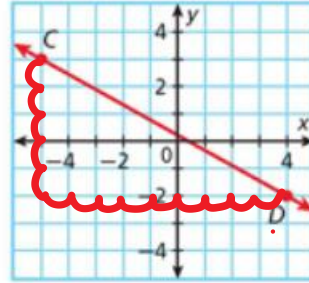
2. \overleftrightarrow{MN}

$$\frac{6}{7}$$



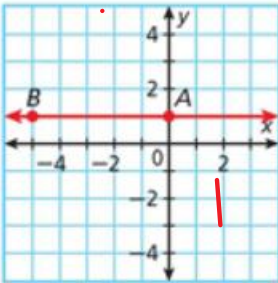
3. \overleftrightarrow{CD}

$$-\frac{5}{9}$$



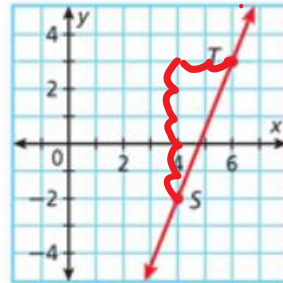
4. \overleftrightarrow{AB}

$$0$$



5. \overleftrightarrow{ST}

$$\frac{5}{2}$$



Biology A migrating bird flying at a constant speed travels 80 miles by 8:00 A.M. and 200 miles by 11:00 A.M. Graph the line that represents the bird's distance traveled. Find and interpret the slope of the line.

Graph each pair of lines. Use slopes to determine whether the lines are parallel, perpendicular, or neither.

7. \overleftrightarrow{HJ} and \overleftrightarrow{KM} for $H(3, 2)$, $J(4, 1)$, $K(-2, -4)$, and $M(-1, -5)$

$$\overleftrightarrow{HJ} = \frac{1-2}{4-3} = \frac{-1}{1} = -1$$

\overleftrightarrow{LM} and \overleftrightarrow{NP} for $L(-2, 2)$, $M(2, 5)$, $N(0, 2)$, and $P(3, -2)$

\overleftrightarrow{QR} and \overleftrightarrow{ST} for $Q(6, 1)$, $R(-2, 4)$, $S(5, 3)$, and $T(-3, -1)$

$$\overleftrightarrow{KM} = \frac{-5-(-4)}{-1-(-2)} = \frac{-1}{1} = -1$$

They are parallel.

27. Classify \overleftrightarrow{MN} and \overleftrightarrow{PQ} for $M(-3, 1)$, $N(1, 3)$, $P(8, 4)$, and $Q(2, 1)$.

F Parallel

H Vertical

G Perpendicular

J Skew

$$\overleftrightarrow{MN} = \frac{3-1}{1-(-3)} = \frac{2}{4} = \frac{1}{2}$$

$$\overleftrightarrow{PQ} = \frac{1-4}{2-8} = \frac{-3}{-6} = \frac{1}{2}$$