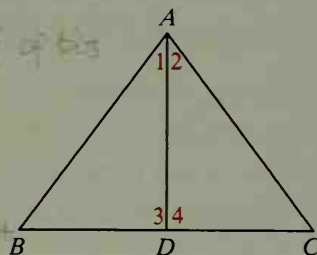


Written Exercises

Name the definition, postulate, or theorem that justifies the statement about the diagram.

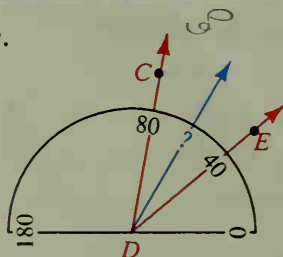
- A**
- If D is the midpoint of \overline{BC} , then $\overline{BD} \cong \overline{DC}$.
 - If $\angle 1 \cong \angle 2$, then \overrightarrow{AD} is the bisector of $\angle BAC$.
 - If \overrightarrow{AD} bisects $\angle BAC$, then $\angle 1 \cong \angle 2$.
 - $m\angle 3 + m\angle 4 = 180$
 - If $\overline{BD} \cong \overline{DC}$, then D is the midpoint of \overline{BC} .
 - If D is the midpoint of \overline{BC} , then $BD = \frac{1}{2}BC$.
 - $m\angle 1 + m\angle 2 = m\angle BAC$
 - $BD + DC = BC$



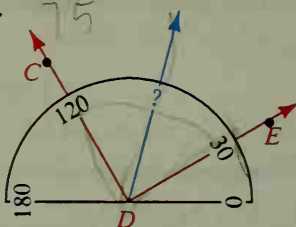
Exs. 1-8

Write the number that is paired with the bisector of $\angle CDE$.

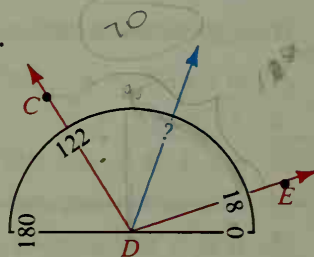
9.



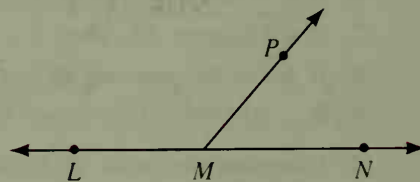
10.



11.



- Draw a diagram similar to the one shown.
- Use a protractor to draw the bisectors of $\angle LMP$ and $\angle PMN$.
- What is the measure of the angle formed by these bisectors?
- Explain how you could have known the answer to part (c) without measuring.



- B**
- The coordinates of points L and X are 16 and 40, respectively. N is the midpoint of \overline{LX} , and Y is the midpoint of \overline{LN} . Sketch a diagram and find:
 - LN
 - the coordinate of N
 - LY
 - the coordinate of Y
 - \overrightarrow{SW} bisects $\angle RST$ and $m\angle RST = 72$. \overrightarrow{SZ} bisects $\angle RSW$, and \overrightarrow{SR} bisects $\angle NSW$. Sketch a diagram and find $m\angle RSZ$ and $m\angle NSZ$.
 - Suppose M and N are the midpoints of \overline{LK} and \overline{GH} , respectively. What segments are congruent?
 - What additional information about the figure would enable you to deduce that $LM = NH$?
 - Suppose \overrightarrow{SV} bisects $\angle RST$ and \overrightarrow{RU} bisects $\angle SRT$. What angles are congruent?
 - What additional information would enable you to deduce that $m\angle VSU = m\angle URV$?

