

Exercise Note

Alert students to the fact that they are to *name* the definition, postulate, or theorem for Exs. 1–8, and to write the full statements. The full statement for Ex. 8 of the Segment Addition Postulate would be confusing because of the use of letters B , C , and D , which would have to be replaced by B , C , and D .

Guided Practice

The coordinates of points P , Q , and M are given in the table. M is the midpoint of PQ . Complete the table.

P	1	19	-2	a	1	b
Q	25	7	24	$3a$?	?
M	?	?	?	?	-2	$4b$
	13	13	11	$2a$	-5	$7b$

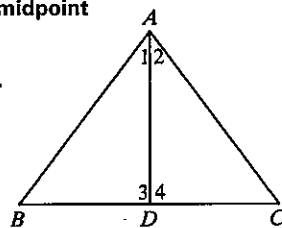
Additional Answers
Written Exercises

2.d. Since $m\angle LMP + m\angle PMN = 180$, then $\frac{1}{2}m\angle LMP + \frac{1}{2}m\angle PMN = \frac{1}{2}(m\angle LMP + m\angle PMN) = \frac{1}{2}(180) = 90$

Written Exercises

Name the definition, postulate, or theorem that justifies the statement about the diagram. 2. Def of \angle bisector 5. Def. of midpoint 6. Midpoint Thm.

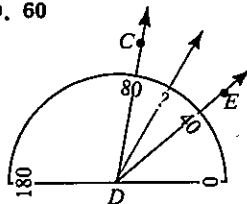
- A**
- If D is the midpoint of \overline{BC} , then $\overline{BD} \cong \overline{DC}$. Def. of midpoint
 - If $\angle 1 \cong \angle 2$, then \overline{AD} is the bisector of $\angle BAC$.
 - If \overline{AD} bisects $\angle BAC$, then $\angle 1 \cong \angle 2$. Def. of \angle bis.
 - $m\angle 3 +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



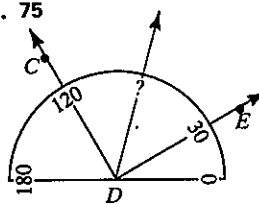
Exs. 1–8

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

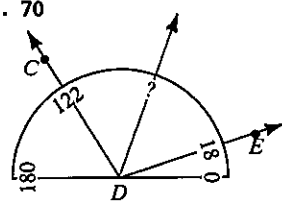
9. 60



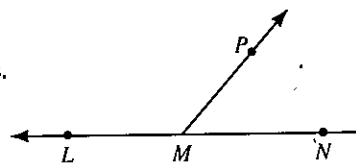
10. 75



11. 70



- Draw a diagram similar to the one shown.
 - Use a protractor to draw the bisectors of $\angle LMP$ and $\angle PMN$. Check students' drawings.
 - What is the measure of the angle formed by these bisectors? 90
 - 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 12
 - the coordinate of N 28
 - LY 6
 - the coordinate of Y 22
 - \overline{SW} bisects $\angle RST$ and $m\angle RST = 72$. \overline{SZ} bisects $\angle RSW$, and \overline{SR} bisects $\angle NSW$. Sketch a diagram and find $m\angle RSZ$ and $m\angle NSZ$. 18, 54
 - 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 \overline{SV} bisects $\angle RST$ and \overline{RU} bisects $\angle SRT$. What angles are congruent?
 - What additional information would enable you to deduce that $m\angle VSU = m\angle URV$?
 - LM and MK , GN and NH
 - $\overline{LK} \cong \overline{GH}$
 - $\angle RSV$ and $\angle VST$, $\angle SRU$ and $\angle URT$
 - $\angle RST \cong \angle SRT$

