

**Activity Lesson Opener**

For use with pages 264–271

**SET UP: Work in a group.****YOU WILL NEED:** • ruler • clock showing seconds  
• sheet of paper

1. One member of the group is the timer, while all the other members play the game. To prepare for the activity, each player draws three segments of length 4 inches on a separate sheet of paper. The segments should be roughly horizontal, with plenty of space left above and below each segment. The endpoints of each segment should be labeled  $A$  and  $B$ .
2. The timer gives the players 10 seconds to draw lines that are perpendicular to  $\overline{AB}$ . Each line must have two arrows and a right angle symbol. A ruler is allowed. The player with the most lines wins. How many different lines perpendicular to  $\overline{AB}$  are possible?
3. Now the timer gives the players 10 seconds to draw lines that bisect  $\overline{AB}$ . Each line must have two arrows and pass through the midpoint of  $\overline{AB}$ . A ruler is allowed. The player with the most lines wins. How many different lines that bisect  $\overline{AB}$  are possible?
4. Now the timer gives the players 10 seconds to draw lines that are perpendicular to  $\overline{AB}$  and bisect  $\overline{AB}$  at the same time. These lines are called *perpendicular bisectors*. Each line must have two arrows and a right angle symbol, and must pass through the midpoint of  $\overline{AB}$ . A ruler is allowed. The player with the most lines wins. How many different perpendicular bisectors of  $\overline{AB}$  are possible?