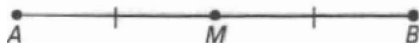


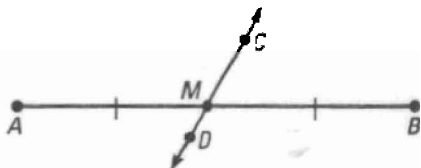
## Section 1.5 Segments and Angle Bisectors

The **midpoint** of a segment is the point that divides, or **bisects**, the segment into two congruent segments. In this book, matching red *congruence marks* identify congruent segments in diagrams.

A **segment bisector** is a segment, ray, line, or plane that intersects a segment at its midpoint.



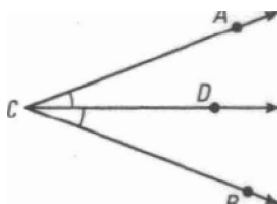
$M$  is the midpoint of  $\overline{AB}$  if  
 $M$  is on  $\overline{AB}$  and  $AM = MB$ .



$\overleftrightarrow{CD}$  is a bisector of  $\overline{AB}$ .

You can use a **compass** and a **straightedge** (a ruler without marks) to **construct** a segment bisector and midpoint of  $\overline{AB}$ . A **construction** is a geometric drawing that uses a limited set of tools, usually a compass and a straightedge.

An **angle bisector** is a ray that divides an angle into two adjacent angles that are congruent. In the diagram at the right, the ray  $\overrightarrow{CD}$  bisects  $\angle ABC$  because it divides the angle into two congruent angles,  $\angle ACD$  and  $\angle BCD$ .



In this book, matching *congruence arcs* identify congruent angles in diagrams.

$$m\angle ACD = m\angle BCD$$