

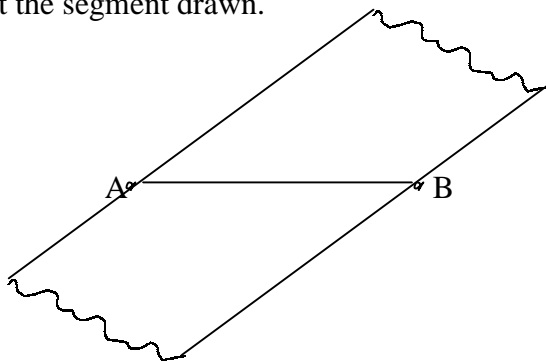
Bisecting with Tape

Purpose: Students will locate the midpoint of a segment and the angle bisector for an angle using transparent tape.

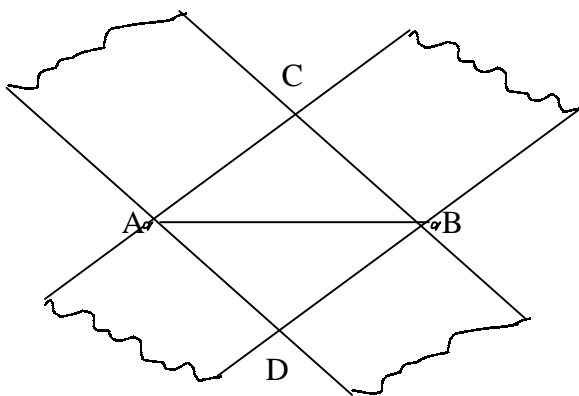
Materials Needed: Transparent tape preferably the wide type of tape, transparencies, ruler.

Part One:

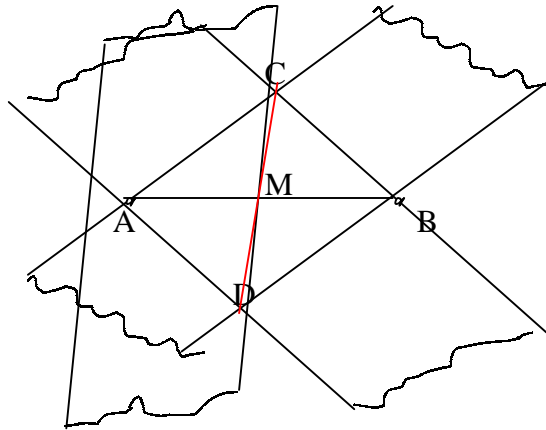
1. Use the ruler to draw a segment approximately two inches long on the unlined paper. Label the endpoints as A and B.
2. Align the opposite edges of a piece of tape through A and B. The piece of tape should be at least an inch longer than the segment drawn.



3. Align another piece of tape atop of the first piece of tape (of about the same length) through A and B so that the two pieces of tape intersect. Label the intersection points C and D.

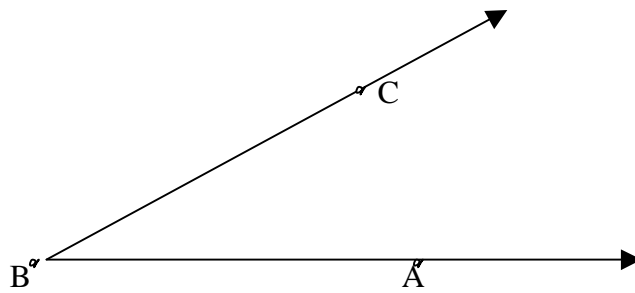


4. Align a third piece of tape so that one edge is aligned with points C and D. The point where the tape intersects segment AB is the midpoint of the segment. Use a ruler to verify.

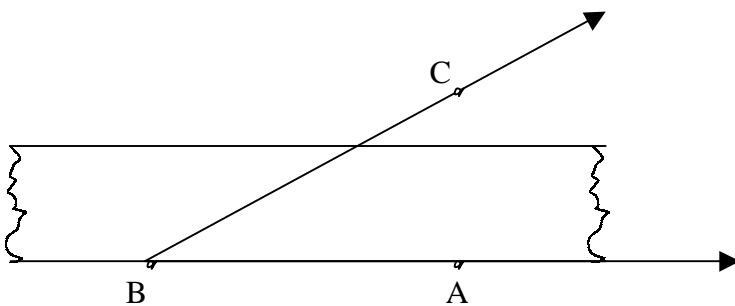


Part Two:

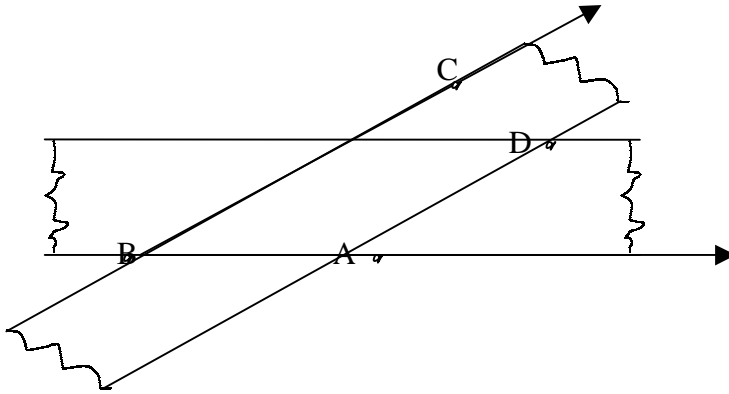
1. Use the ruler to draw an angle on a sheet of unlined paper. The teacher may want to assign one group of students to draw acute angles, another group to draw right angles, and a third group to draw obtuse angles to ensure a variety of angles. Label the angle as $\angle CBA$.



2. In the interior of the angle, align a piece of tape along one side of the angle. Be sure the piece of tape is long enough to pass through both the vertex and the point labeled on that side.



3. In the interior of the angle, align a new piece of tape along the other side of the angle. Again, be sure the new piece of tape is long enough to pass through the vertex and point labeled on that side of the angle. Label the point at which the two pieces of tape intersect as point D.



4. Align a third piece of tape so that one edge of the tape is aligned with points B and D. The ray BD should be the angle bisector for $\angle CBA$. Use paper folding to verify.

