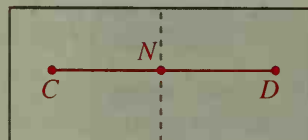
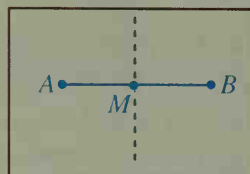


Example 2 Construct a parallelogram with diagonals of lengths AB and CD .

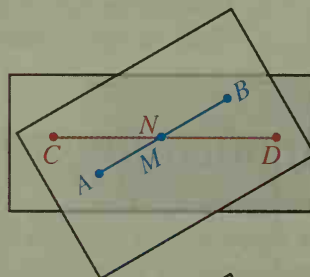


Solution Recall that if the diagonals of a quadrilateral bisect each other, the quadrilateral is a parallelogram.

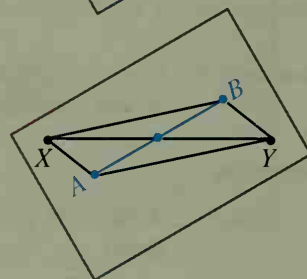
Step 1 Trace each given segment onto a different piece of paper. Use Construction 4 to construct the midpoint M of \overline{AB} and the midpoint N of \overline{CD} .



Step 2 Position the two pieces of paper so that M is on top of N and the two segments are not lined up.

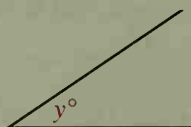


Step 3 Use Construction 1 (on page 711) to construct \overline{XY} congruent to \overline{CD} . Draw $\square AXBY$. Since \overline{AB} and \overline{XY} bisect each other, $AXBY$ is a parallelogram.



Exercises

Use the angles shown to construct an angle having the indicated measure.



1. $x + y$

2. $x - y$

3. $\frac{1}{2}x$

4. $180 - 2y$