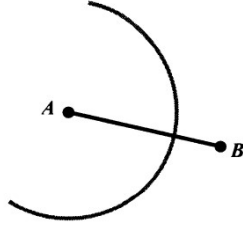


1. Construct the perpendicular bisector of a line segment

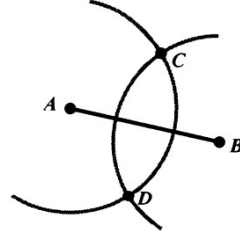
(a) Given \overline{AB}



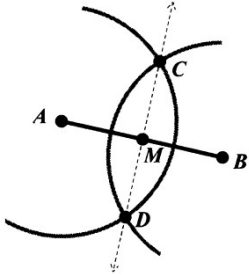
(b) Place your pointer at A, extend your compass so that the distance exceeds half way. Create an arc.



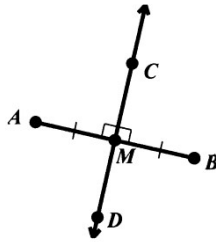
(c) Without changing your compass measurement, place your point at B and create the same arc. The two arcs will intersect. Label those points C and D.



(d) Place your straightedge on the paper and create \overline{CD} .

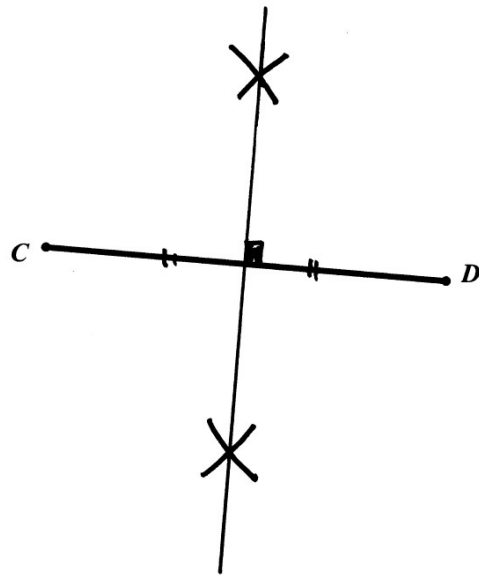
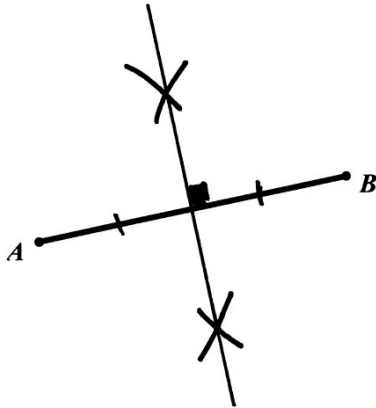


(e) \overline{CD} is the perpendicular bisector of \overline{AB} .



NYTS (Now You Try Some)

Construct the perpendicular bisector.

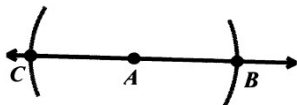


2. Construct a line perpendicular to a given segment through a point on the line.

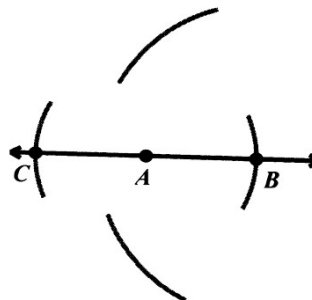
(a) Given a point on a line.



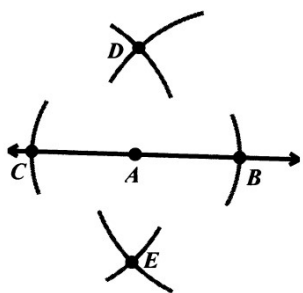
(b) Place your pointer on point A. Create arcs equal distant from A on both sides using any distance. Label the intersection points B and C.



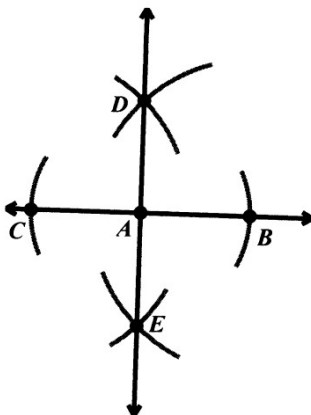
(c) Place your pointer on point B and extend it past A. Create an arc above and below point A.



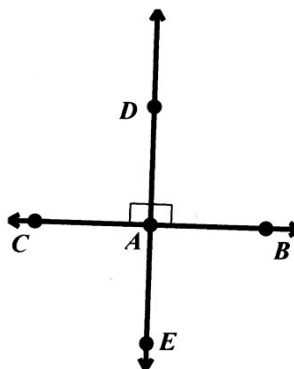
(d) Place your pointer on point C and using the same distance, create an arc above and below A. Label the intersections as points D and E.



(e) Create \overline{DE} .

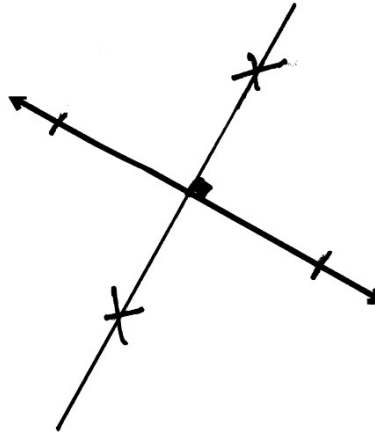
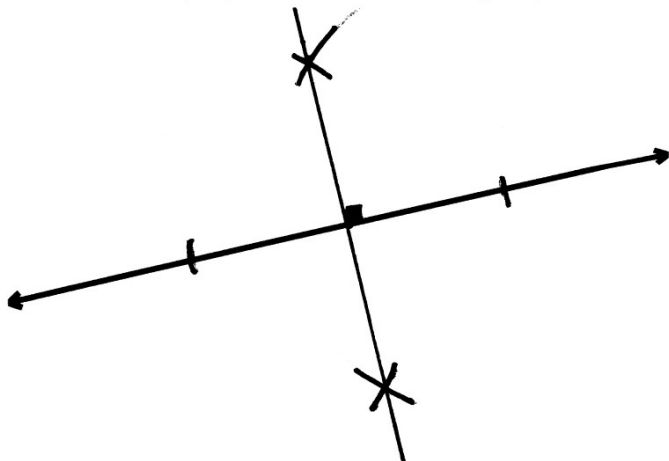


f) \overline{DE} is perpendicular to the line through A.



NYTS (Now You Try Some)

Construct the perpendicular line through a point on the line.

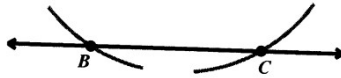


3. Construct a line perpendicular to a given line through a point not on the line.

(a) Given a point A not on the line.



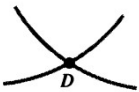
(b) Place your pointer on point A, and extend it so that it will intersect with the line in two places. Label the intersections points B and C.



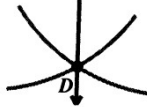
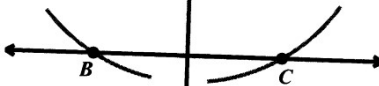
(c) Using the same distance, place your pointer on point C and create an arc on the opposite side of point A.



(d) Do the same things as step (c) but placing your pointer on point B. Label the intersection of the two arcs as point D.



(e) Create \overline{AD}

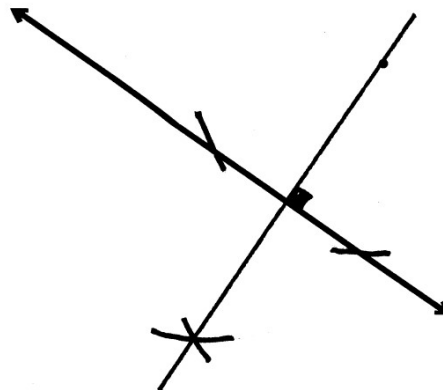
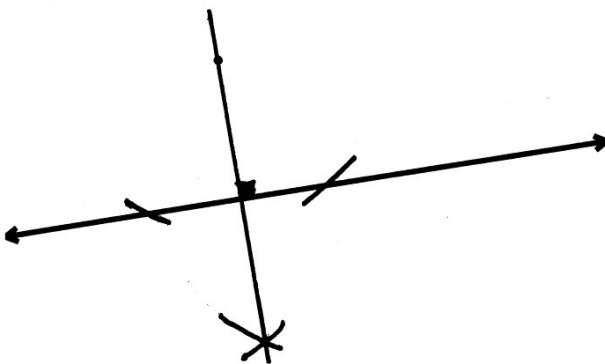


(f) \overline{AD} is perpendicular to the given line through point A.



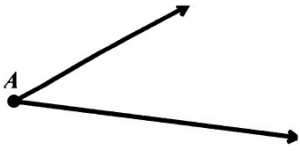
NYTS (Now You Try Some)

Construct the perpendicular line through a point not on the line.

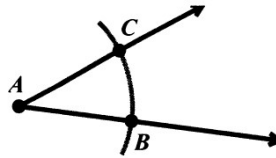


4. Bisect an angle

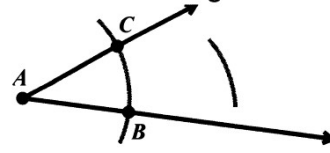
(a) Given an angle.



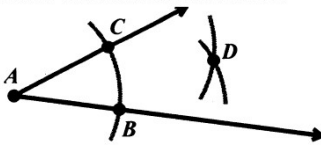
(b) Create an arc of any size, such that it intersects both rays of the angle. Label those points B and C .



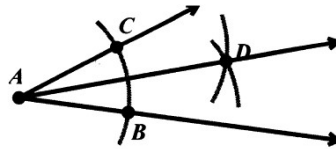
(c) Leaving the compass the same measurement, place your pointer on point B and create an arc in the interior of the angle.



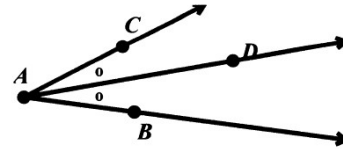
(d) Do the same as step (c) but placing your pointer at point C . Label the intersection D .



(e) Create \overline{AD} . \overline{AD} is the angle bisector.



(f) \overline{AD} is the angle bisector.



NYTS (Now You Try Some)

Bisect the angle.

