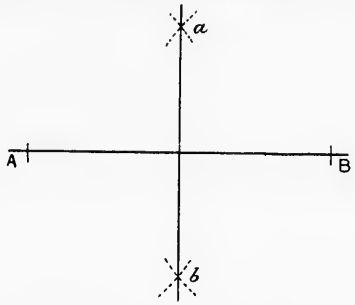
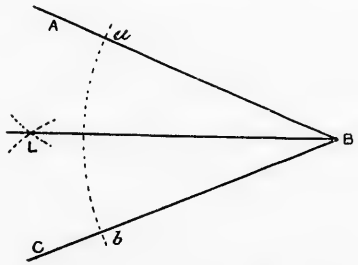
PROBLEM 1.—To Bisect a Given Straight Line, **A B.**



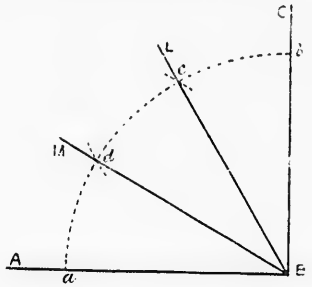
From **A**, as centre, describe an arc having a radius greater than one-half **A B.**
From **B**, as centre, describe, with the same radius, another arc cutting the former in **a** and **b.**
Join, by a straight line, the points of intersection **a, b.**
The line **a b** will bisect **A B** and will itself also be bisected at the same point.

PROBLEM 2.—To Bisect a Given Angle, **A B C.**



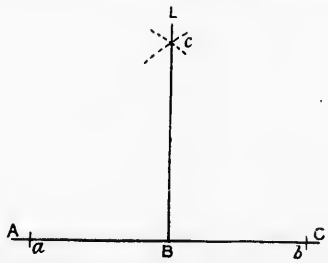
With **B** as centre, describe any arc cutting the lines **A B, B C,** in **a** and **b.**
From **a** and **b** as centres, with any length as radius, describe arcs meeting in **L.**
The straight line **L B** will bisect the given angle **A B C.**

PROBLEM 3.—To Trisect the Given Right Angle **A B C.**



With **B** as centre, describe any arc cutting the sides **A B, B C,** in **a** and **b.**
With the same radius and the centres **a, b,** describe arcs cutting the arc **a b** in **c** and **d.**
The straight lines **B L, B M,** joining **B** to **c** and **d,** will trisect the right angle, **A B C.**

PROBLEM 4.—From a Given Point **B,** in a Straight Line **A C,** to Draw a Perpendicular to the Line.



Make **B a** equal to **B b** and from the points **a** and **b** as centres, describe equal arcs meeting in **c.** The straight line **B L,** joining **B** to **c,** will be the required perpendicular.