

2. Bisect the angle ACB by the straight line CD . (*Prop. 9, Book I.*)

3. Let the straight line CD meet AB in the point D .

AB shall be cut into two equal parts in the point D .

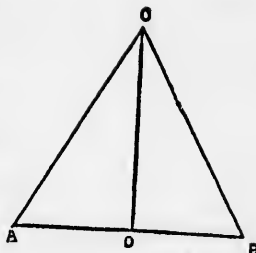
PROOF 1. Because AC is equal to CB (*Construction 1*), and CD common to the two triangles, ACD , BCD .

2. The two sides, AC , CD , are equal to the two sides BC , CD , each to each.

3. And the angle ACD is equal to the angle BCD . (*Construction 2.*)

4. Therefore the base AD is equal to the base DB (*Prop. 4, Book I.*)

CONCLUSION.—Wherefore the straight line AB is divided into two equal parts in the point D . Which was to be done.



PROPOSITION 11.—PROBLEM.

To draw a straight line at right angles to a given straight line from a given point in the same.

GIVEN.—Let AB be the given straight line, and C a given point in it.

SOUGHT.—It is required to draw a straight line from the point C at right angles to AB .

CONSTRUCTION.—1. Take any point D in AC .

2. Make CE equal to CD (*Prop. 3, Book I.*) (producing AB , if necessary, in the same straight line from A or B , should the given point be identical with either extremity, or too close to allow us to make CE equal to CD without producing the given line.)

3. Upon DE describe the equilateral triangle DFE . (*Proposition 1, Book I.*)

