

Geometry Constructions

SOL G.4 (2009)

Illustrations taken from VDOE High School Mathematics
Geometry Vocabulary Word Wall Cards (2013)

Constructions

Traditional constructions involving a compass and straightedge reinforce students' understanding of geometric concepts. Constructions help students visualize Geometry.

There are multiple methods to most geometric constructions. These cards illustrate only one method. Students would benefit from experiences with more than one method and should be able to justify each step of geometric constructions.

Construct segment CD congruent to segment AB

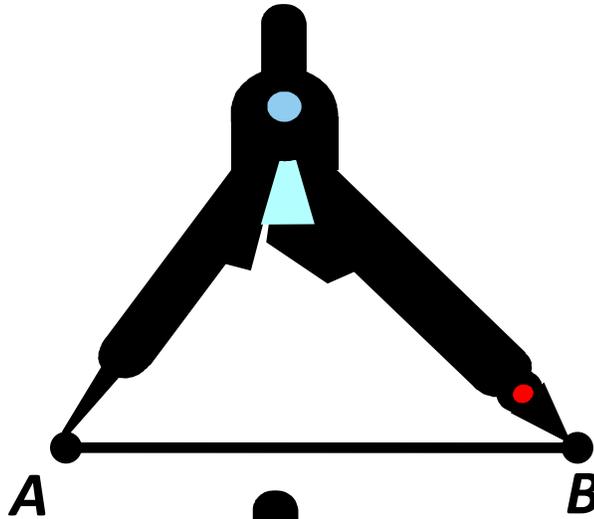


Fig. 1

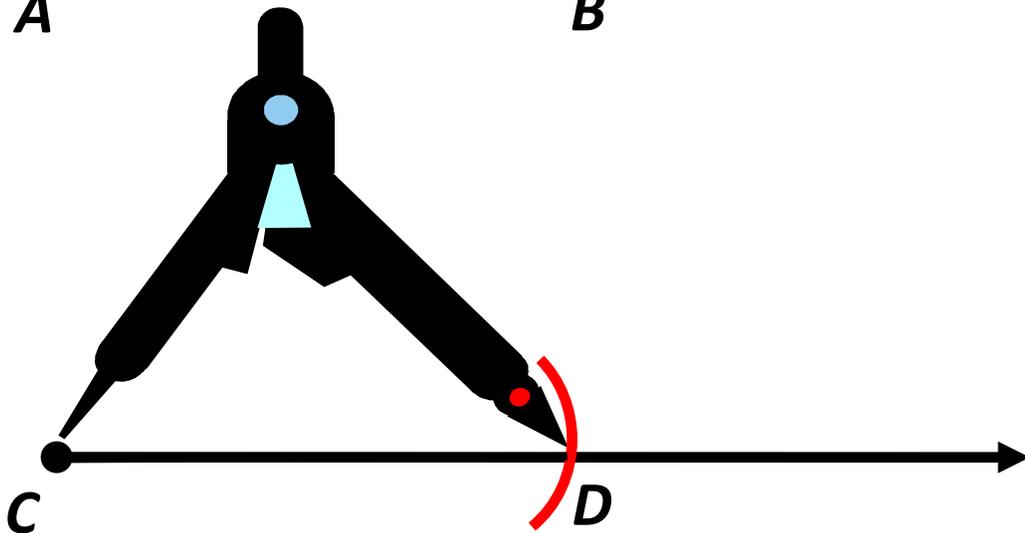
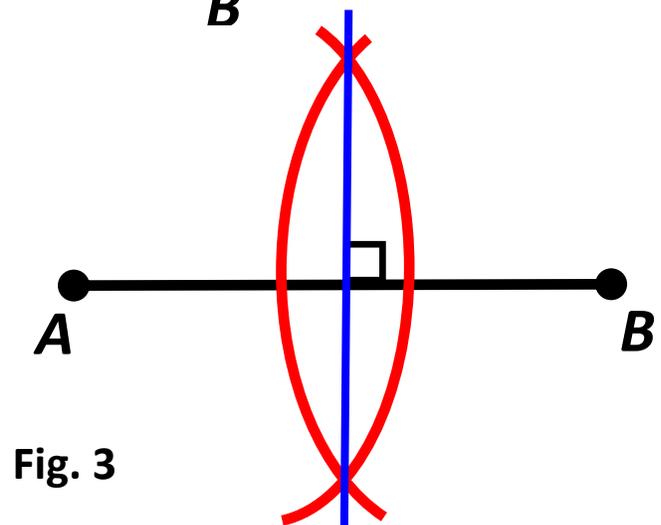
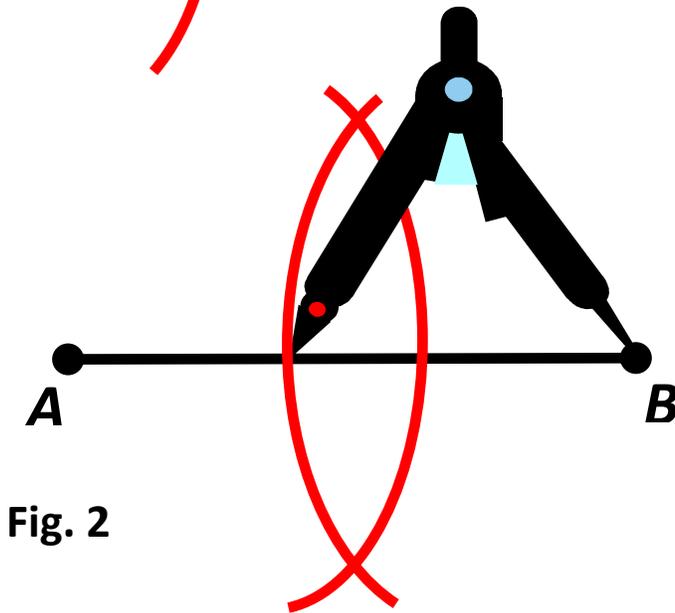
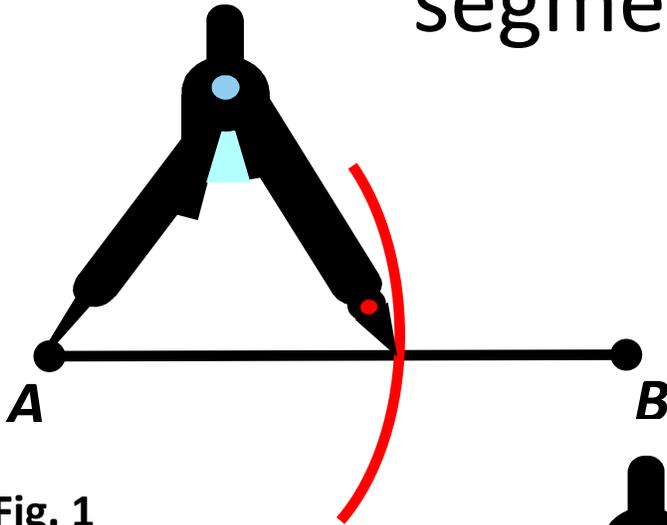


Fig. 2

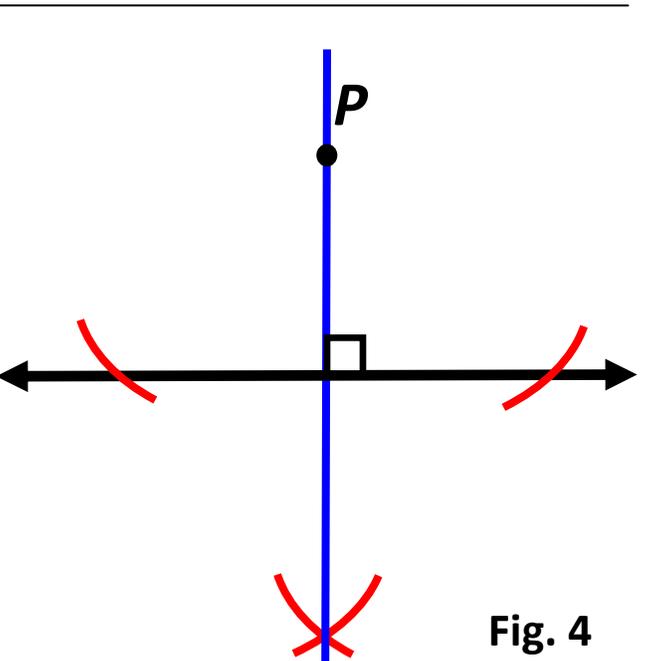
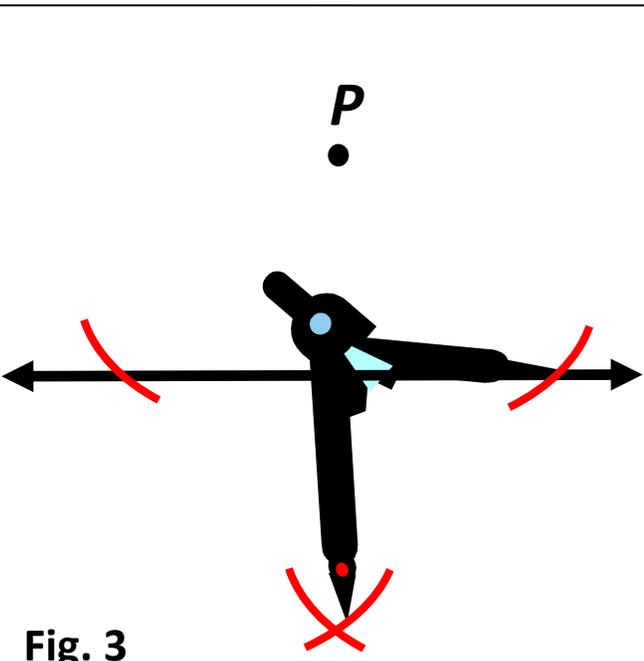
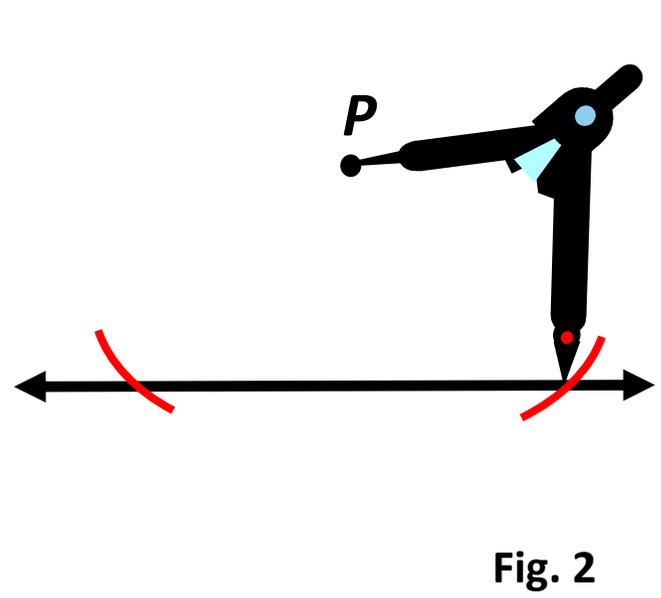
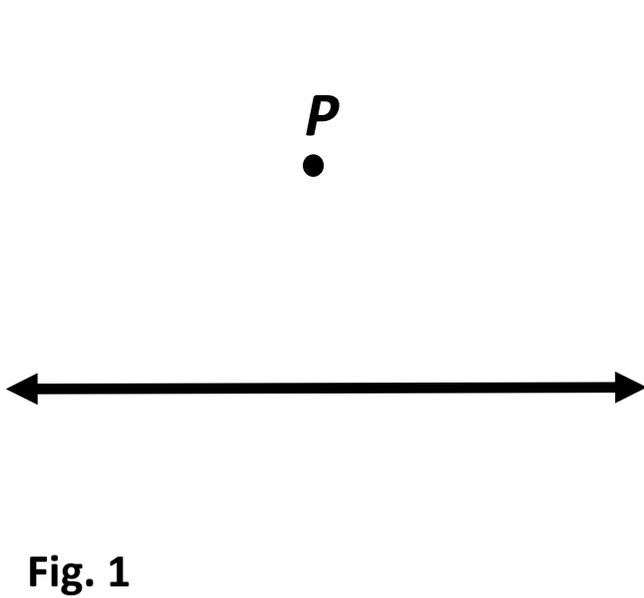
Construct

a perpendicular bisector of
segment AB



Construct

a perpendicular to a line from
point P not on the line



Construct

a perpendicular to a line from
point P on the line

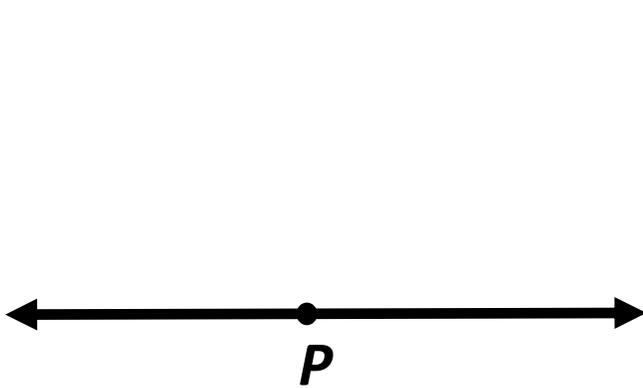


Fig. 1

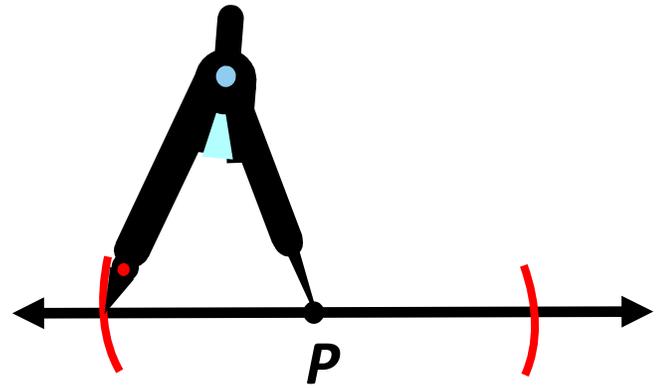


Fig. 2

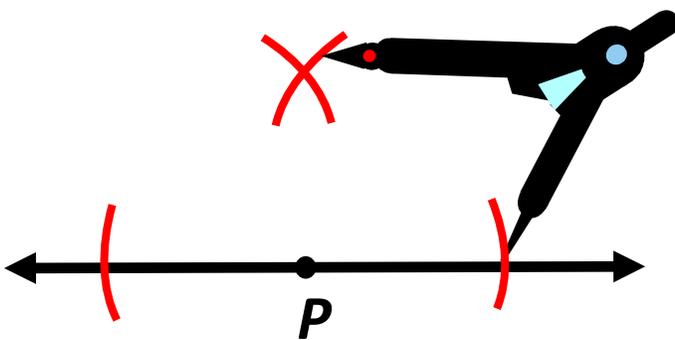


Fig. 3

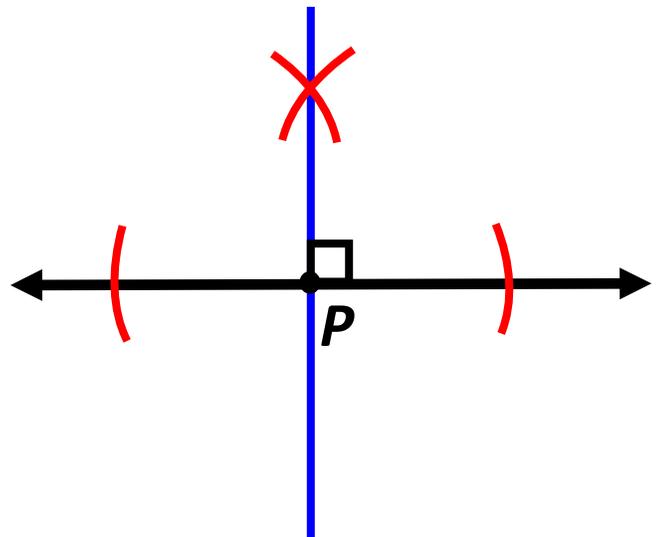


Fig. 4

Construct a bisector of $\angle A$

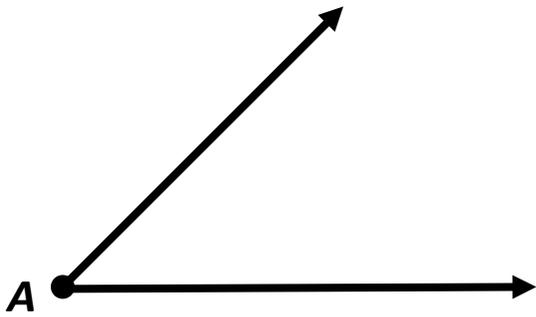


Fig. 1

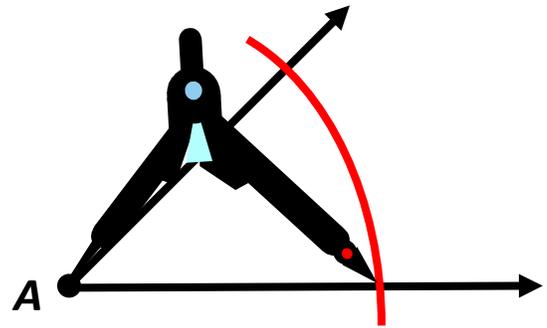


Fig. 2

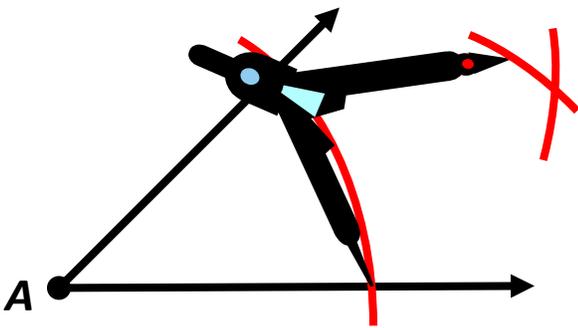


Fig. 3

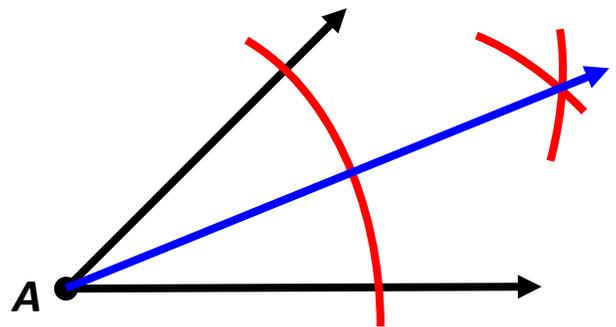


Fig. 4

Construct

$\angle Y$ congruent to $\angle A$

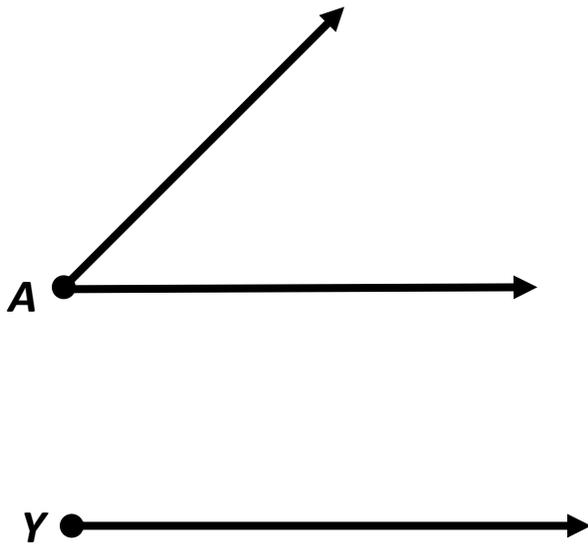


Fig. 1

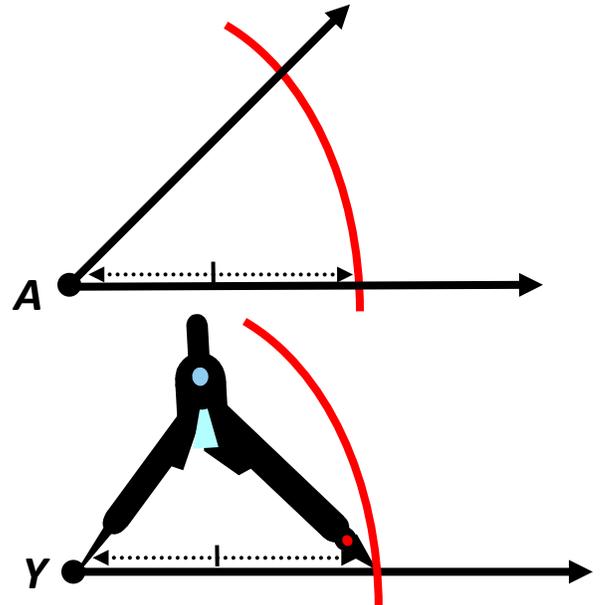


Fig. 2

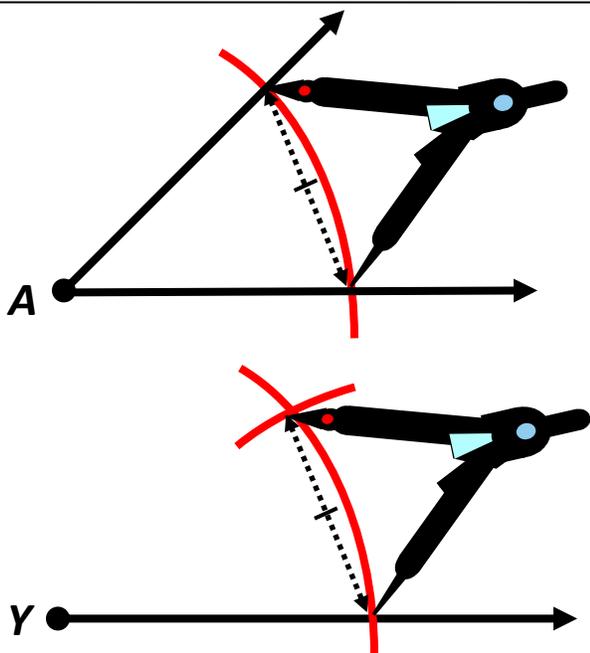


Fig. 3

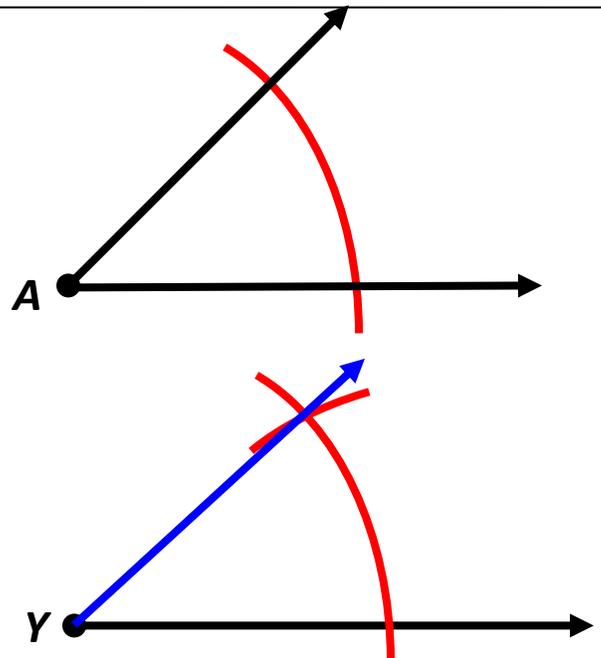
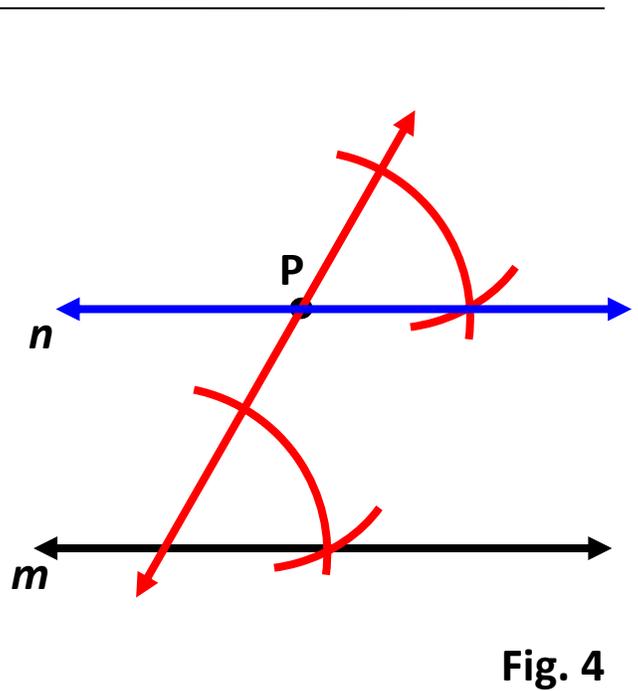
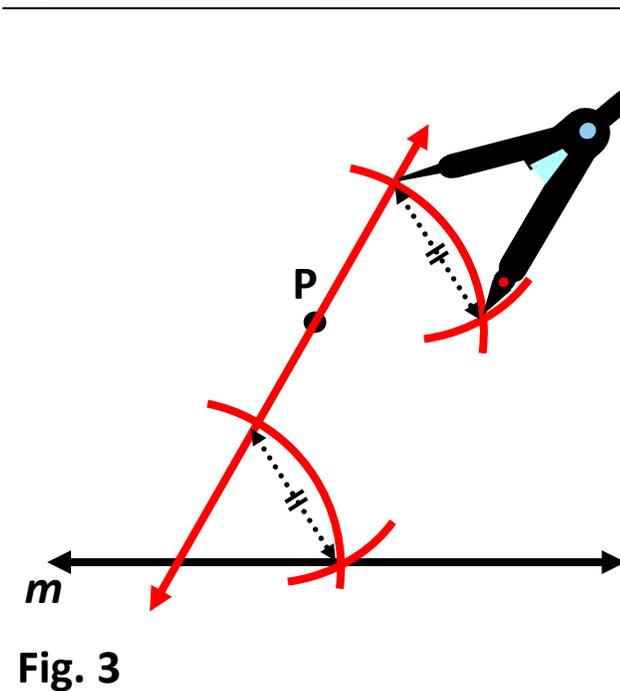
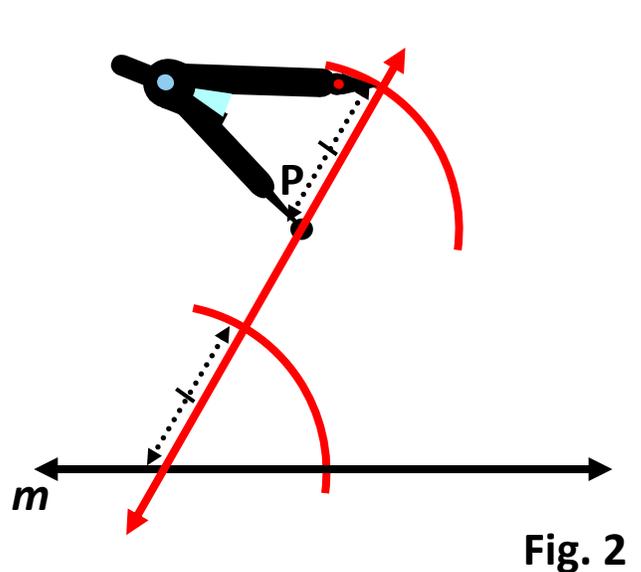
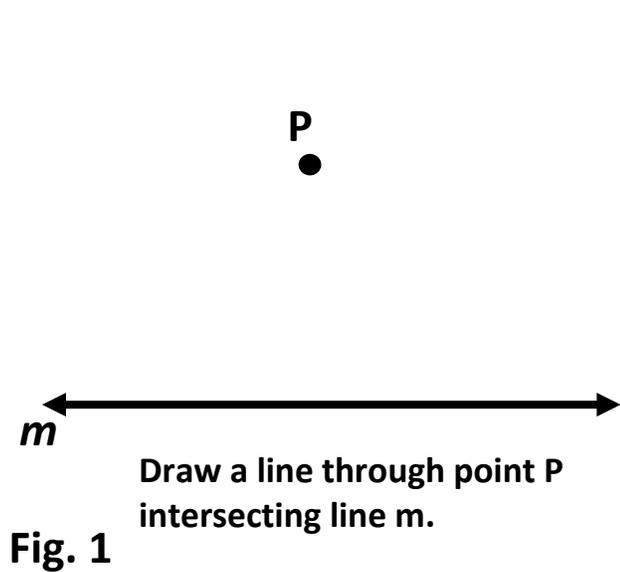


Fig. 4

Construct

line n parallel to line m through point P not on the line



Construct

an equilateral triangle inscribed
in a circle

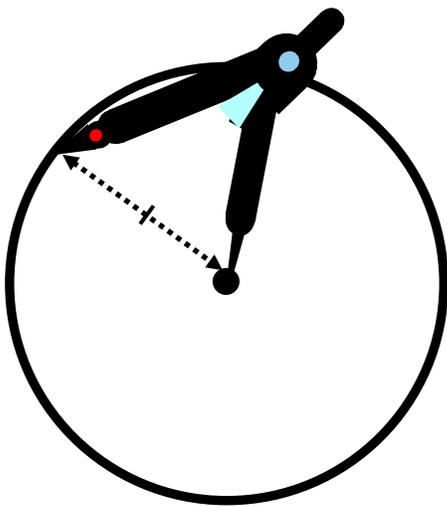


Fig. 1

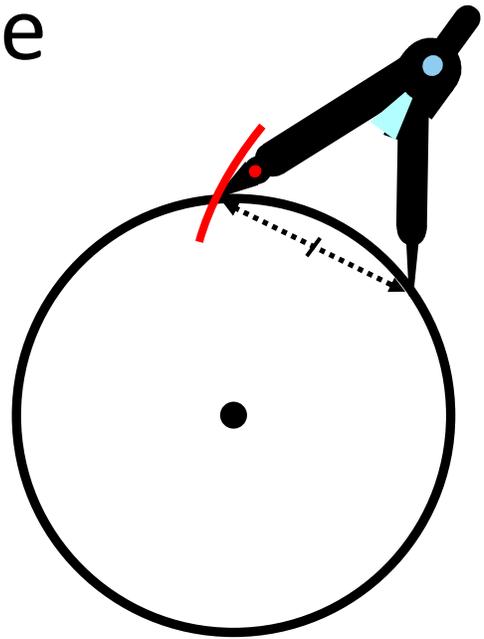


Fig. 2

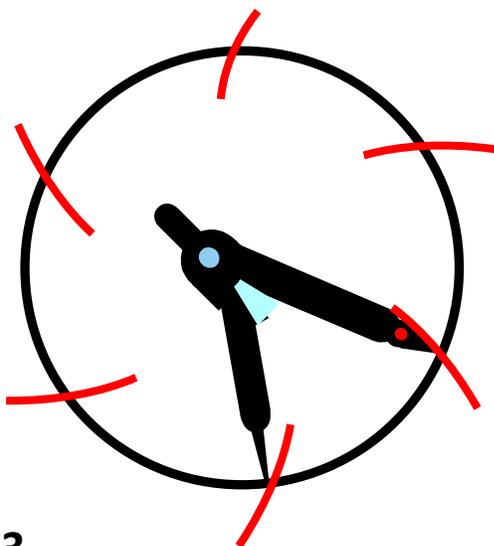


Fig. 3

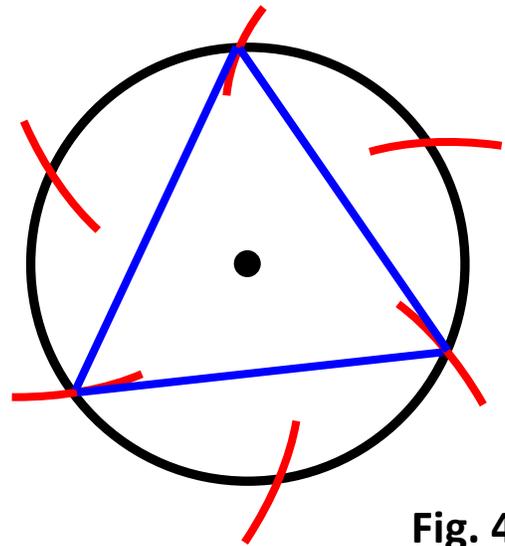


Fig. 4

Construct

a square inscribed in a circle

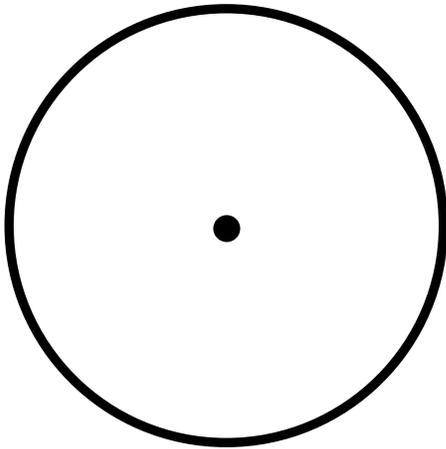


Fig. 1 Draw a diameter.

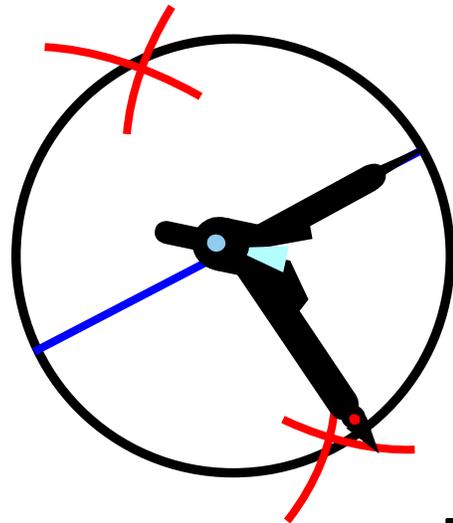


Fig. 2

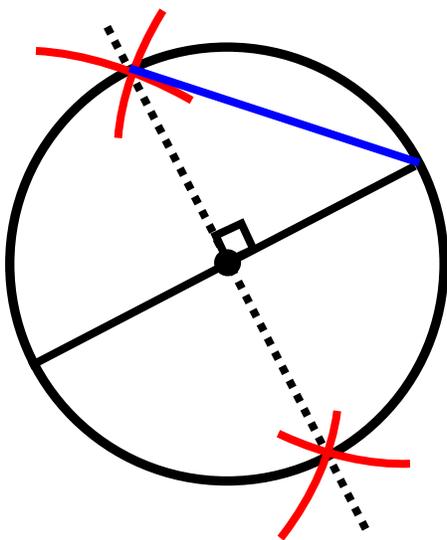


Fig. 3

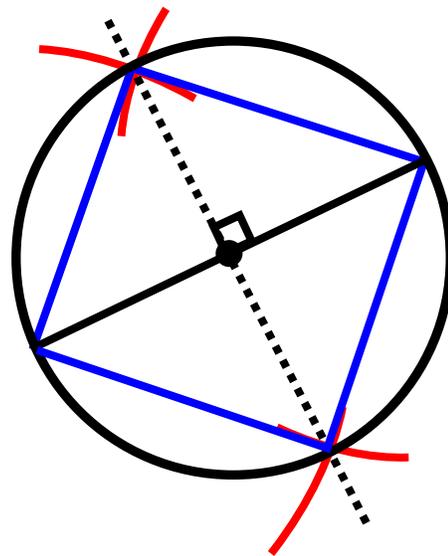


Fig. 4

Construct a regular hexagon inscribed in a circle

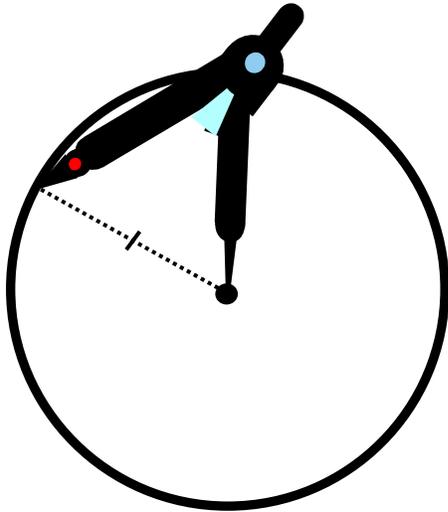


Fig. 1

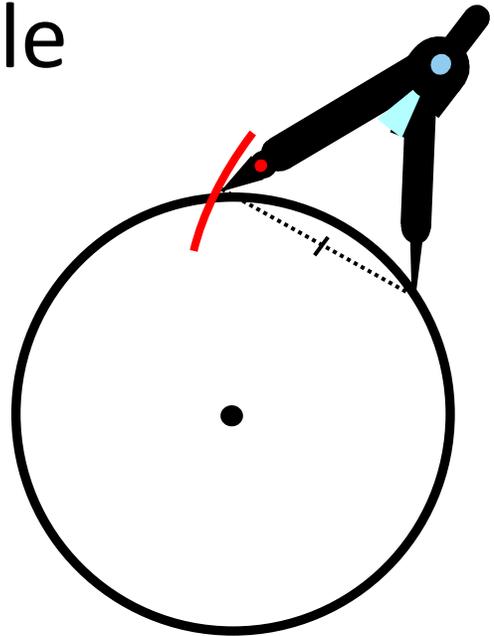


Fig. 2

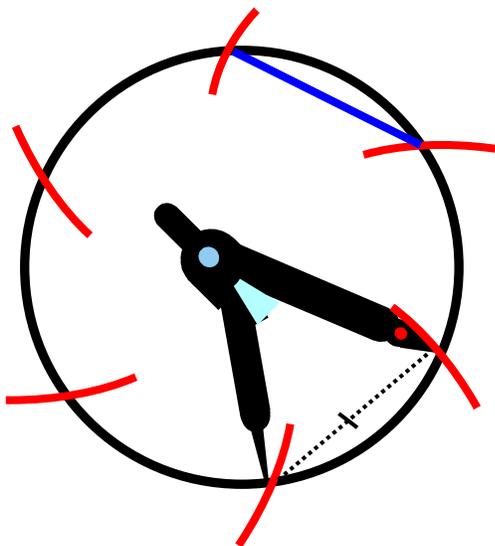


Fig. 3

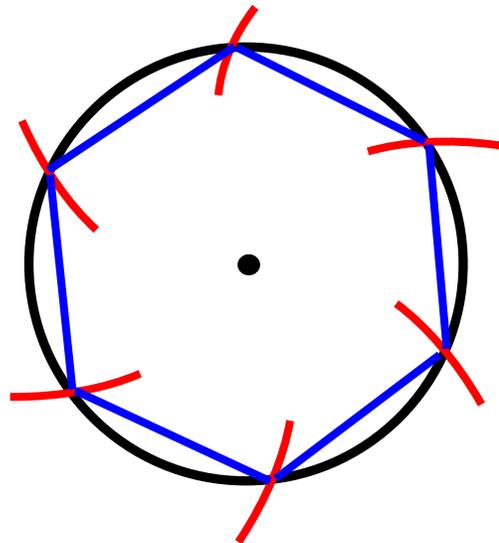


Fig. 4

Construct

the inscribed circle of a triangle

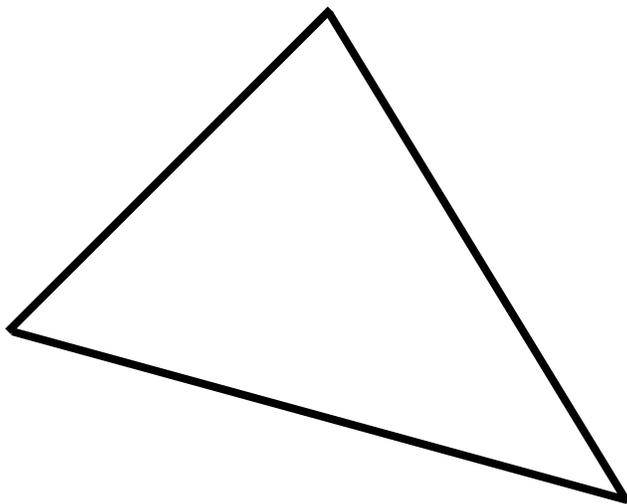


Fig. 1 Bisect all angles.

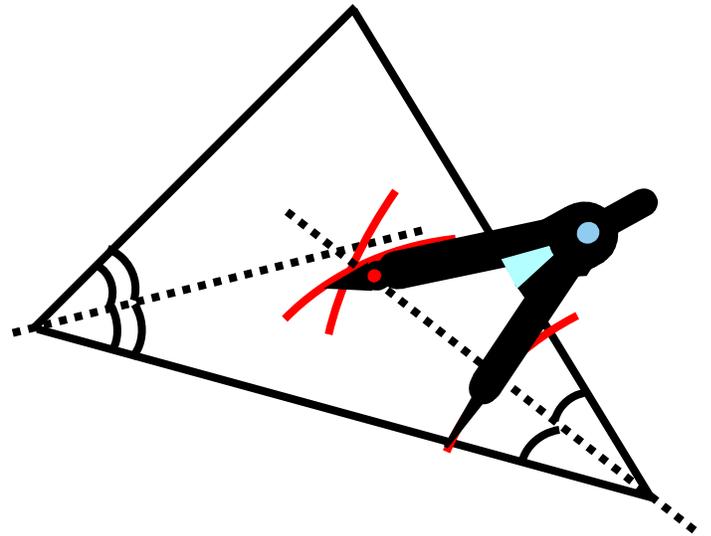


Fig. 2

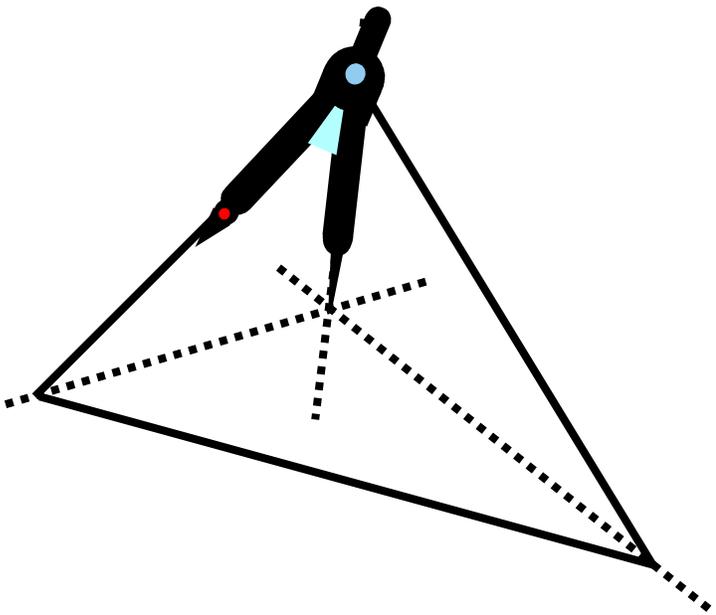


Fig. 3

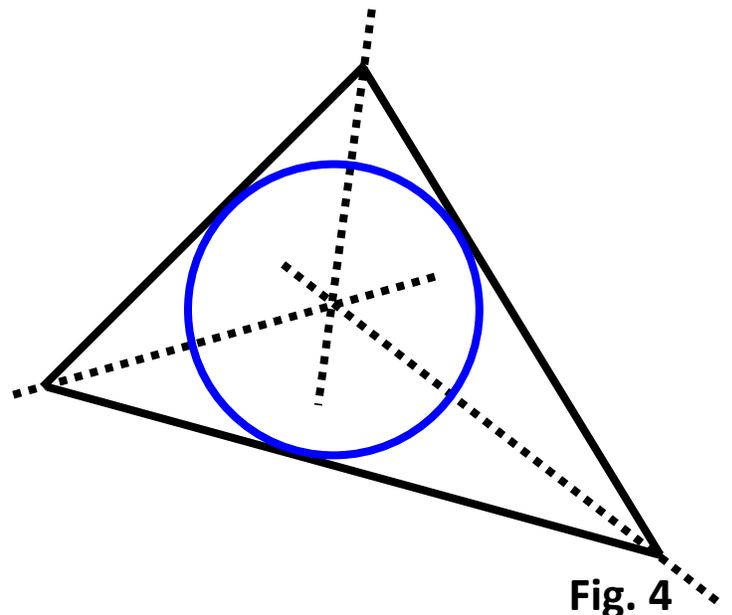


Fig. 4

Construct the circumscribed circle of a triangle

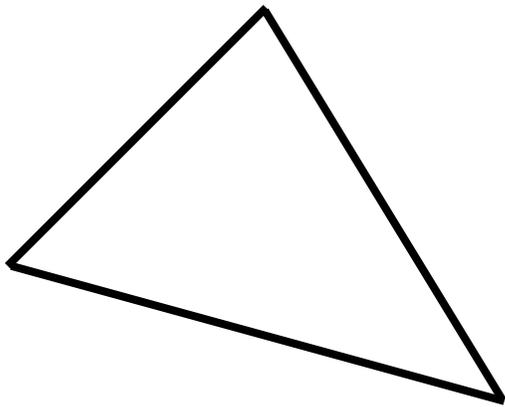


Fig. 1

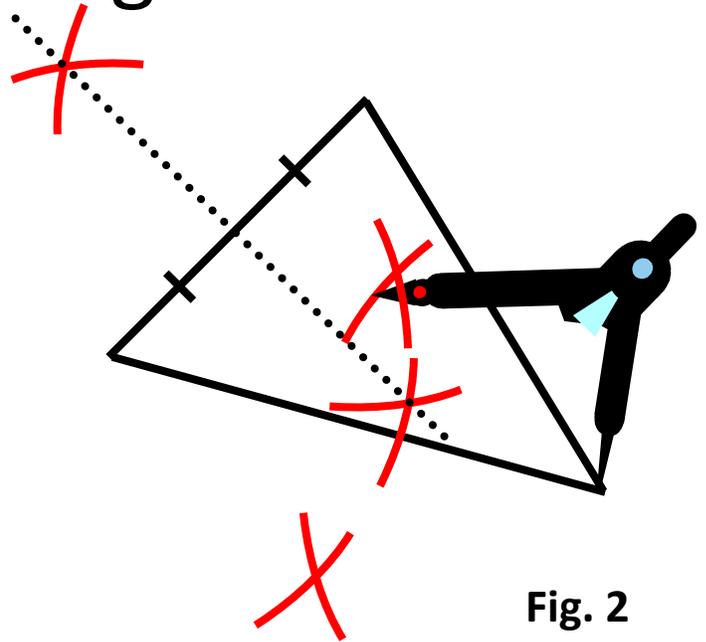


Fig. 2

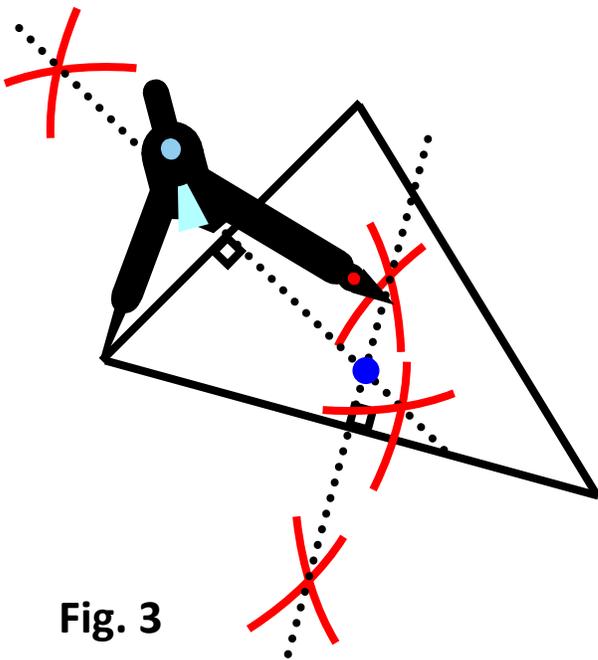


Fig. 3

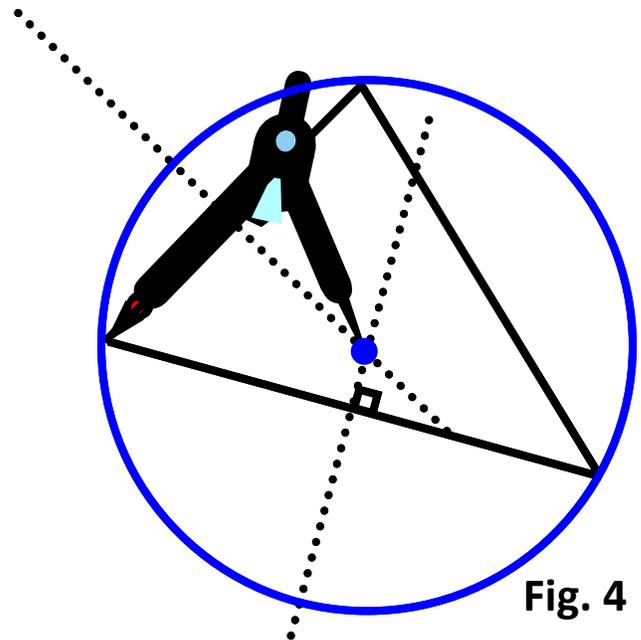


Fig. 4

Construct

a tangent from a point outside a given circle to the circle

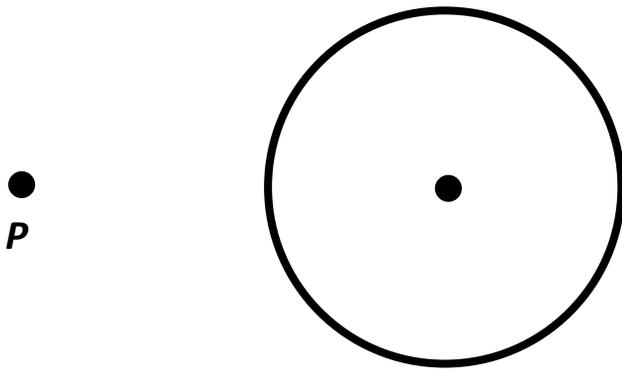


Fig. 1

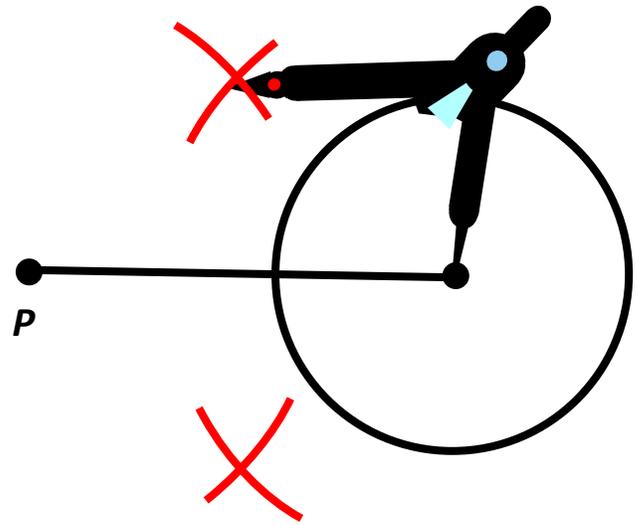


Fig. 2

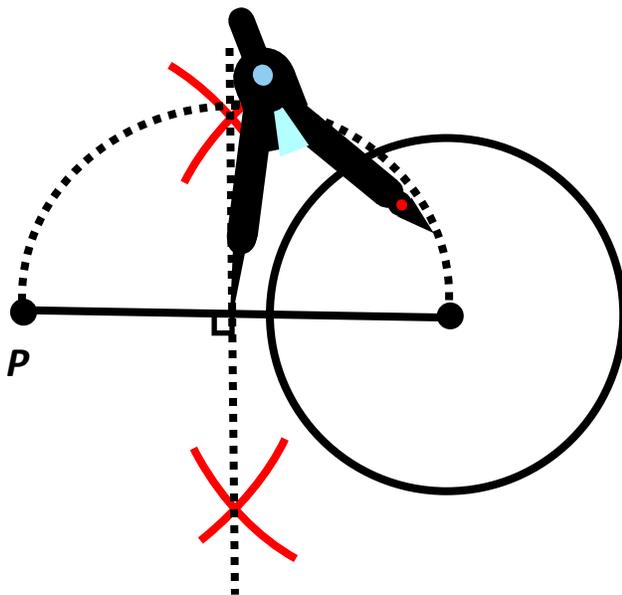


Fig. 3

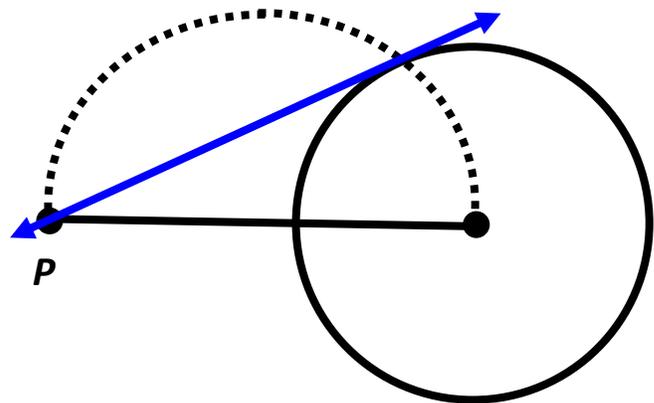


Fig. 4