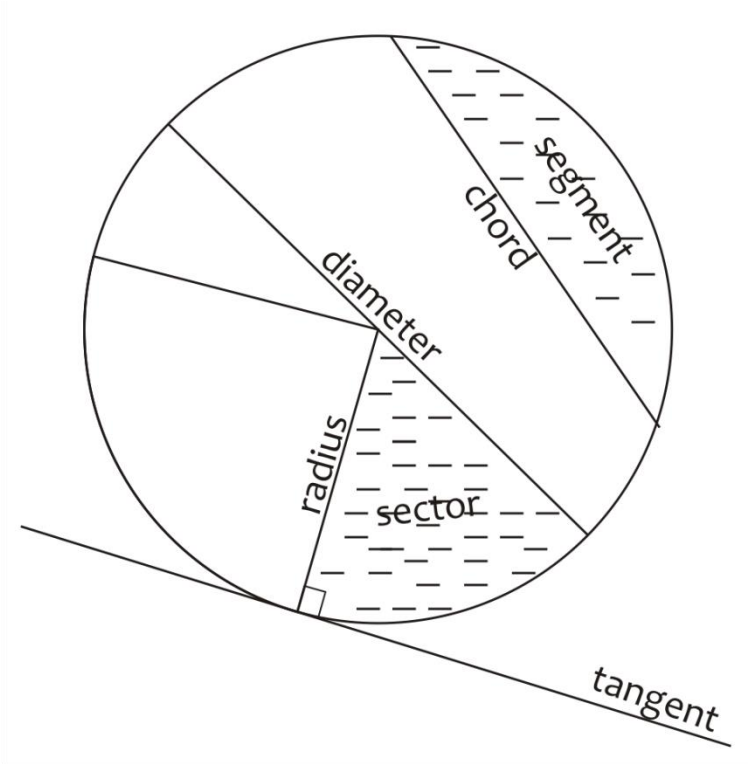
CIRCLE

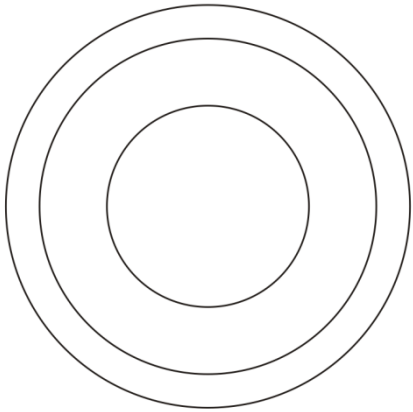
A circle is a plane figure bounded by a curved line called the circumference, which is always equidistant from the centre.



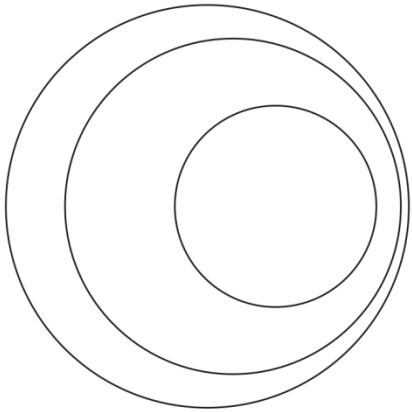
A diameter is a straight line drawn through the centre, meeting the circumference at both ends.

- A radius is a straight line drawn from the centre to the circumference.
- An arc is a part of the circumference.
- A chord is any straight line drawn across the circle meeting the circumference at both ends but does not pass through the centre.
- A tangent is a straight line which touches the circumference. It is always at right angle to the radius.
- A segment is a part of a circle bounded by an arc and a chord.
- A sector is part of a circle bounded by two radii and an arc.
- A quadrant is part of a circle bounded by two radii at right angles and an arc.
- Concentric circles have the same centre but different radii.
- Eccentric circles have different centres.

Circle

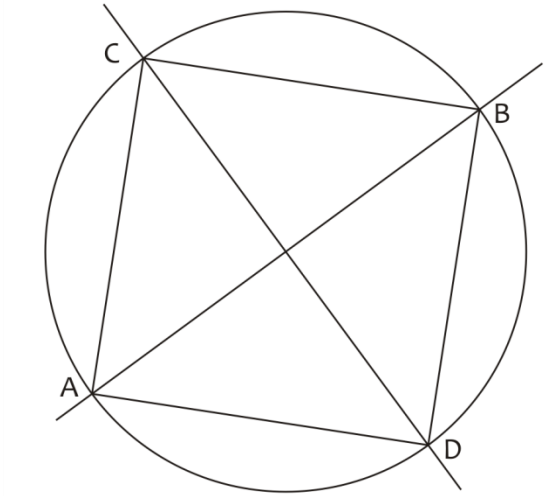


Concentric circles



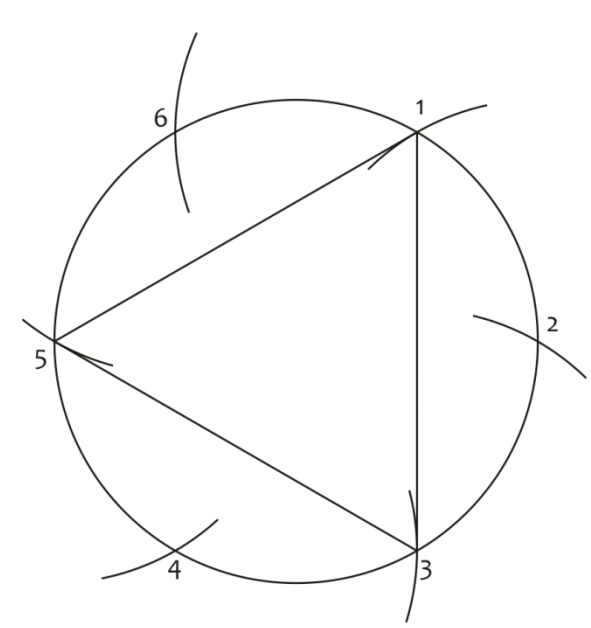
Eccentric circles

To inscribe a square in a circle



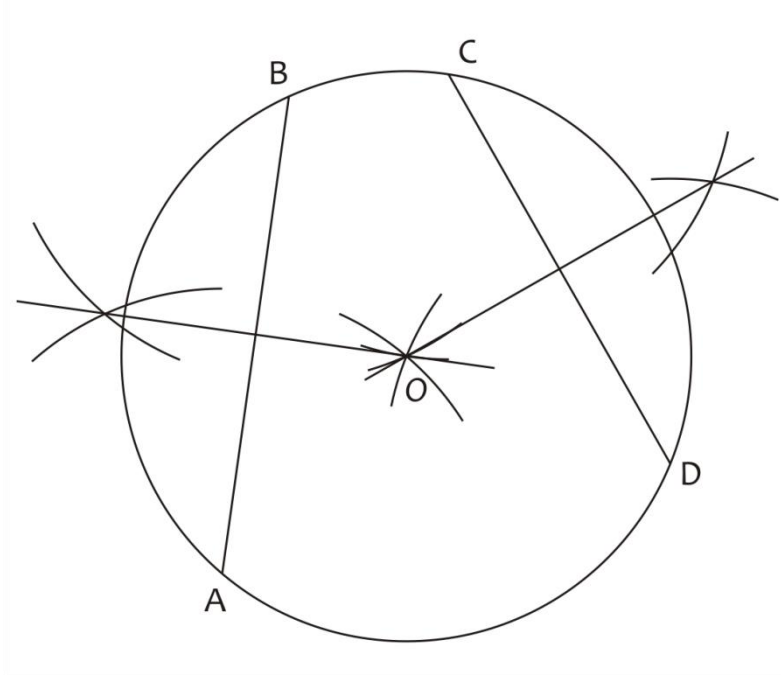
1. Draw a given circle.
2. Draw the diameter AB and CD at right to each other.
3. Draw lines AC, CB, BD, and DA to complete the square.

To inscribe an equilateral triangle in a circle



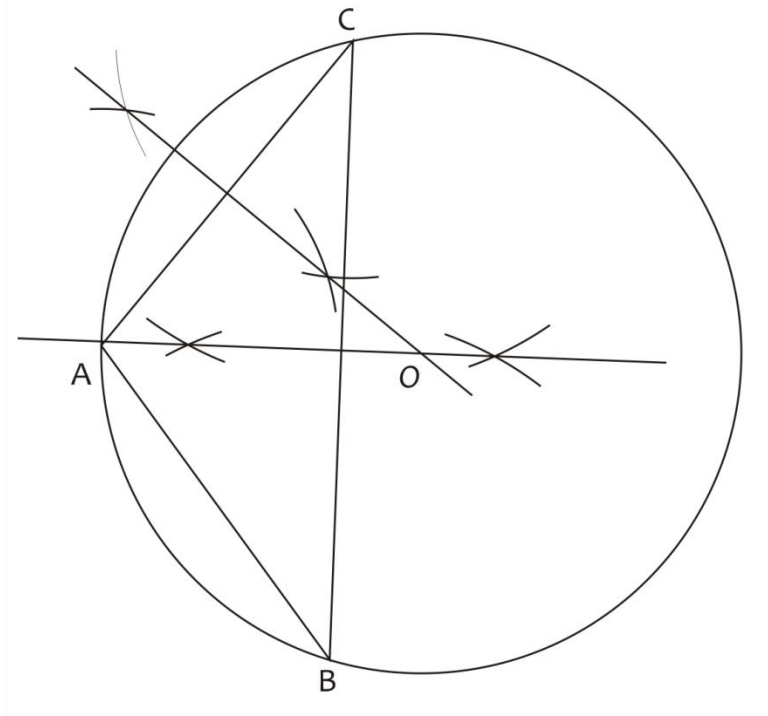
1. Draw the given circle.
2. Take the radius of the circle and step it off six times on the circumference.
3. Join every second point on the circumference to complete the equilateral triangle.

To find the centre of a circle



1. Draw any two chords AB and CD.
2. Bisect AB and DC. The bisecting lines intersect at O, which is the centre of the circle.

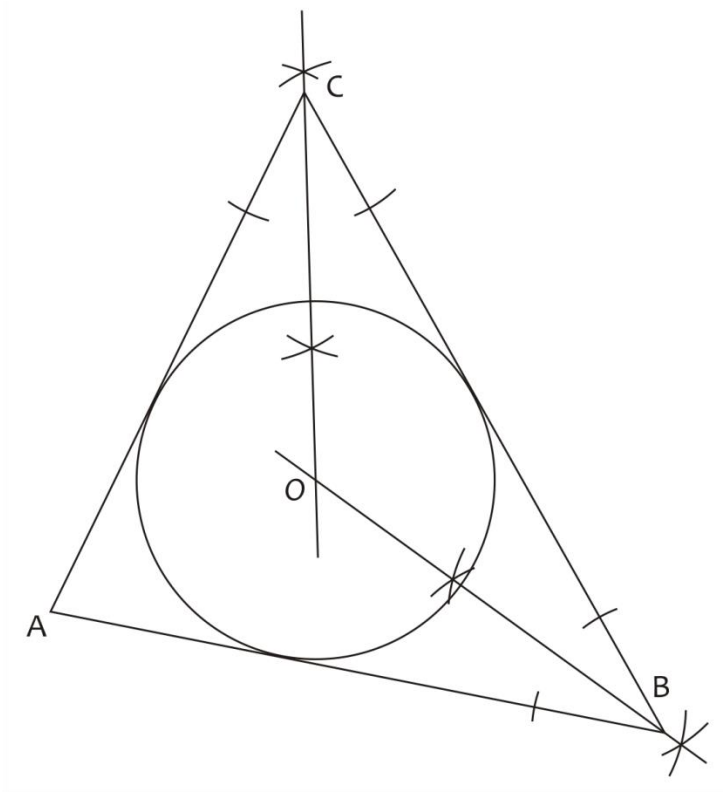
To draw the circumscribed circle to a given triangle



1. Draw the given triangle ABC.
2. Bisect any two sides. The bisecting lines intersect at O, which is the centre of the required circle.
3. With centre O and radius OA draw the circle which will pass through B and C.

To Draw an Inscribed Circle to a Given Triangle

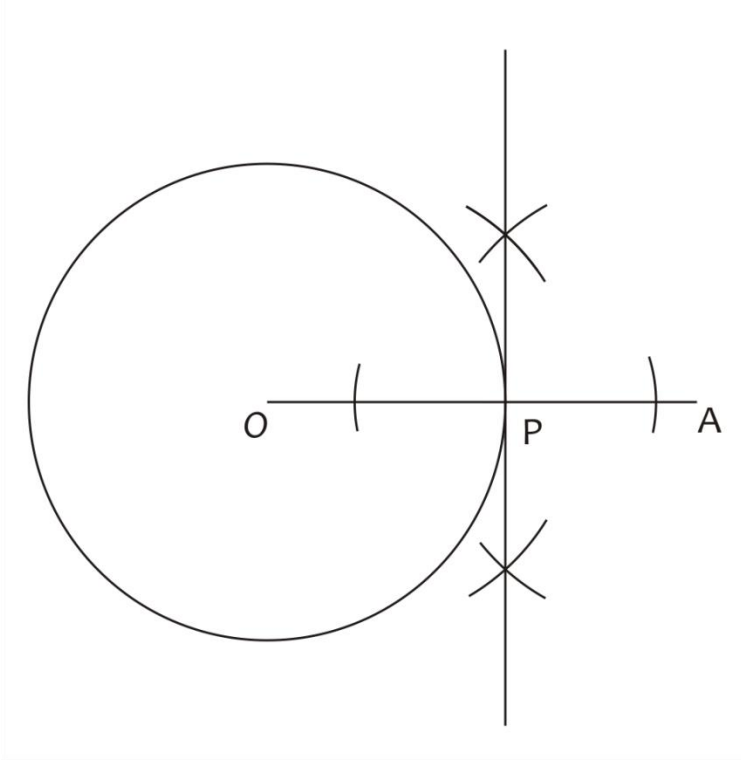
1. Draw the given triangle ABC.
2. Bisect any two angles. The bisecting lines will intersect at O, which is the centre of the circle.
3. Draw a perpendicular to any side from O.
4. With centre O and radius OD draw the required circle.



To construct a tangent to a circle at a given point on the circumference

1. Draw the circle with centre O. Indicate the given point P.
2. Extend a line from OP outwards.
3. With centre P and radius OP draw an arc to cut the extended line at A.

4. Bisect OA. The bisector BC is the required tangent



To construct a tangent to a circle from a given point outside it

1. Draw the circle with centre O. Indicate the given point P.
2. Draw line OP.

3. Bisect OP and indicate the centre as Q.
4. With Q as centre and radius OQ, draw an arc to cut the circumference of the circle. Indicate the point where the circumference is cut as A
5. Extend a line from P through A to form line AP. This line AP is the required tangent.

