



Draw the circle with centre at **O** and radius
 $R = OA$
 This is known as the circumradius

Solution:

Let OD, OE, OF are the perpendicular bisectors of the triangle of sides BC, CA, AB respectively

The point of intersection of OD and OE is **O**;

Therefore,

$$\mathbf{O} = \begin{pmatrix} \frac{-53}{12} \\ \frac{5}{12} \end{pmatrix} \quad (1)$$

Radius of circle with centre **O**

$$R = OA = \frac{\sqrt{4514}}{12} \quad (2)$$

Therefore;

The equation of circle is

$$\mathbf{r}(t) = \left(\frac{-53}{12} + \frac{\sqrt{4514}}{12} \cos(t) \right) \hat{\mathbf{i}} + \left(\frac{5}{12} + \frac{\sqrt{4514}}{12} \sin(t) \right) \hat{\mathbf{j}} \quad (3)$$

This circle is circumcircle.