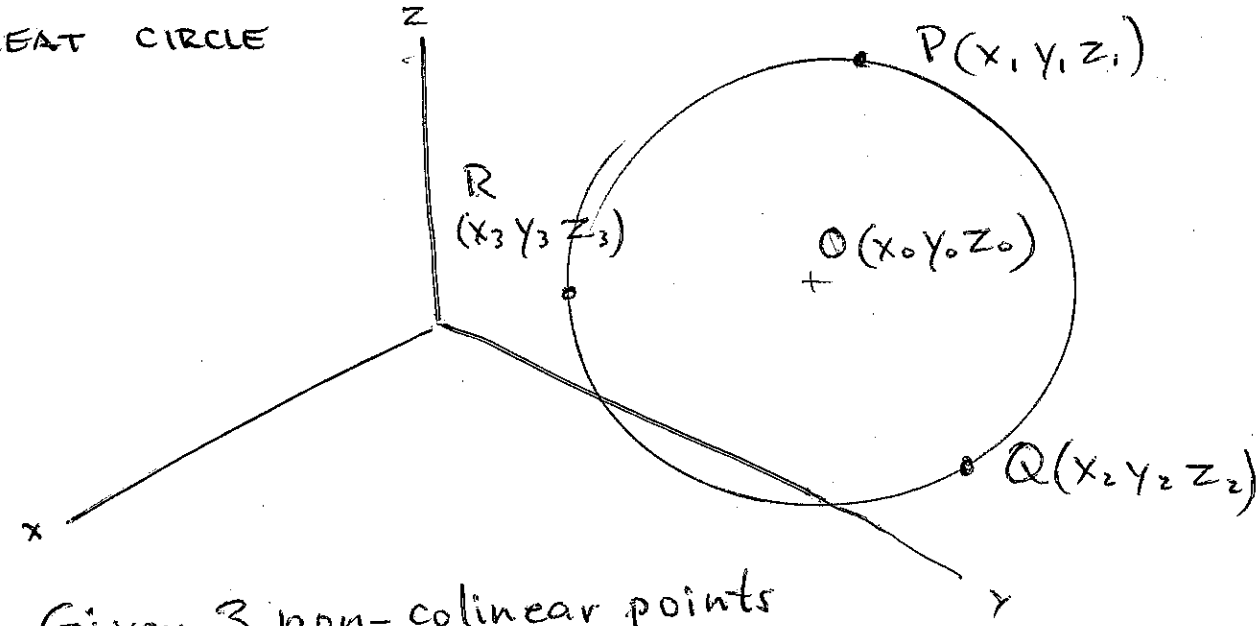
GREAT CIRCLE



Given 3 non-colinear points
P, Q and R, cartesian 3-space.

Find the radius, r, of the great circle.

3 eqns. scalar

$$\left\{ (x_1 - x_0)^2 + (y_1 - y_0)^2 + (z_1 - z_0)^2 = r^2 \right.$$

x_2 etc y_2 etc. z_2
x_3 y_3 z_3

P Q R define a plane, so vector product

$\underline{OP} \times \underline{OQ} = \underline{ON}$ normal to plane

and

4th eqn $\rightarrow$ $\underline{ON} \cdot \underline{OP} = 0$
scalar

or any other in-plane vector.

Solve 4/4 eqn/unks..
Finding r.