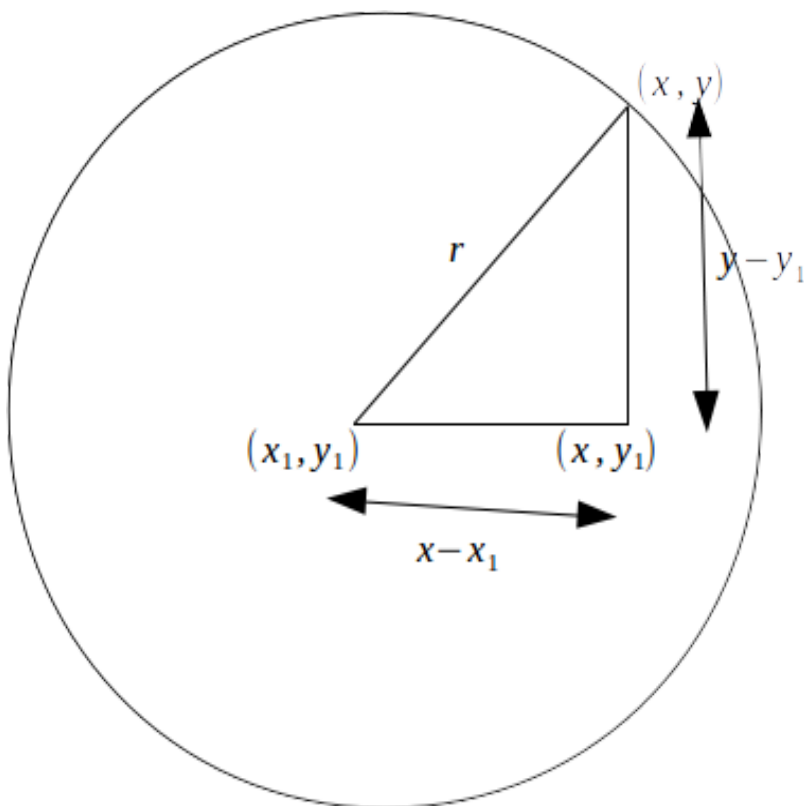


Equation of a Circle

The equation of a circle can be derived using Pythagoras Theorem. The circle below has centre (x_1, y_1) . The point (x, y) lies on the circle.



Construct a right angled triangle with hypotenuse from the centre (x_1, y_1) to the point (x, y) - and so equal to the radius r of the circle, base parallel to the x - axis and height parallel to the y - axis.

Then the base of the triangle is $x - x_1$ and the height is $y - y_1$.

From Pythagoras Theorem, $(x - x_1)^2 + (y - y_1)^2 = r^2$