#### equation of a circle

a circle is a set of points that are equidustant from a fixed point. you can use pythagoras theorem to derive equations of circles on a coordinate grid. for any point (x,y) on the circumference of a

urcle, you can use pythagoras to show the relationship between x, y, and the radius, r.

The equation of a circle with centre (0,0) and radius r is  $x^2 + y^2 = r^2$ 

when a circle has a centre (a, b) and radius r. use the general form of the equation of a circle:

# $(x-a)^{2} + (y-b)^{2} = r^{2}$

### Tangent and Chord properties

A tangent to a circle is perpendicular to the radius at the point of intersection.

## Perpendicular

the perpendicular Oduector of three on the context of the context go through the centre

#### and triangles circles

is possible to draw a unique circle through the vertices ίt of any triangle.

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the circle is called the circumcircle of the triangle

the centre of the circle is called the circumcentre of the triangle and is the point where the perpendicular bisectors of each side intersect.

the angle in a semicircle is always a right angle.

intersect centre.

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to find the centre of a circle given any three points on a circumference.

-find the equations of the perpendicular bisectors of the two different chords.

- find the coordinates of the point of intersection of the perpendicular bisectors.

Intersection of straight lines

you can use algebra to find the coordinates of intersection of a straight line through a circle.

a straight line can intersect once (tangent), twice, or not at all.

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To find, Sub linear into equation of the circle