The equation of a circle given its centre, a b and its radius, r is: bracket x subtract a all squared plus bracket y subtract b all squared equals r squared.

If A is the point negative six five, B is the point two, seven and AB is the diameter of the circle.

Find the equation of this circle.

The centre of the circle is the midpoint of AB. For the x coordinate add x one, negative six, and x two, two together to get negative four and divide by two.

For the y coordinate, add y one, five and y two, seven, together to get 12 and divide by two.

This leaves you with the coordinate negative two six.

To find the radius use the distance formula, use point A or B and the centre.

For point A, radius equals the square root of negative six subtract negative two all squared, plus five subtract six all squared which is the square root of negative four squared, plus negative one squared, which equals the square root of 17.

The equation of this circle is x subtract negative two all squared, which is x plus two all squared plus y subtract six all squared equals root 17 squared.

Remember surd law root a times root a equals a so root 17 squared is 17.

The other form of the equation of a circle where the centre is negative g, negative f and the radius is the square root of g squared plus f squared subtract c is: X squared plus Y squared plus two G X plus two F Y plus C equals zero.

Circle C one has an equation X squared plus Y squared subtract six X subtract two Y subtract 26 equals zero.

Circle C two has a centre four negative two. If the radius of each circle is equal, find the equation of circle C two.

Find the radius of circle two using the equation of circle one. Two G equals negative six so G equals negative three.

Two F equals negative two so F equals negative one.

The radius is calculated as the square root of negative three squared plus negative one squared subtract the constant term c, negative 26.

The radius is six.

Substitute the centre of circle two and its radius into the circle formula to get its equation: x subtract four all squared, plus y plus two all squared, equals 36.

Remember, the equations of a circle are given on the formula sheet.