

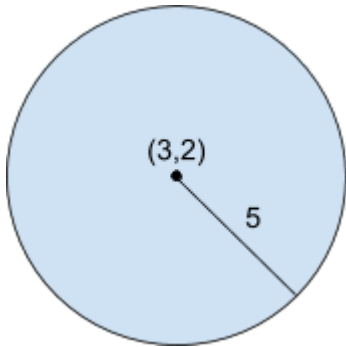
INCREASINGLY DIFFICULT CIRCLE EQUATIONS

1) Find the centre and radius of the circle with the equation $(x - 2)^2 + (y + 1)^2 = 9$.

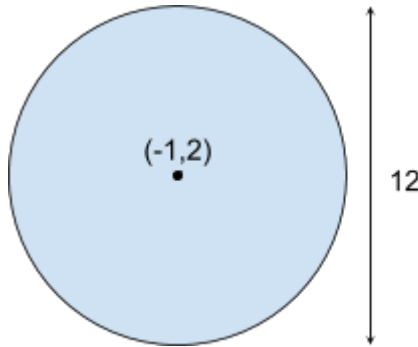
2) Find the centre and radius of the circle with the equation $(x + 2)^2 + y^2 = 40$.

3) Find the centre and radius of the circle with the equation $x^2 + y^2 - 4x + 2y - 4 = 0$.

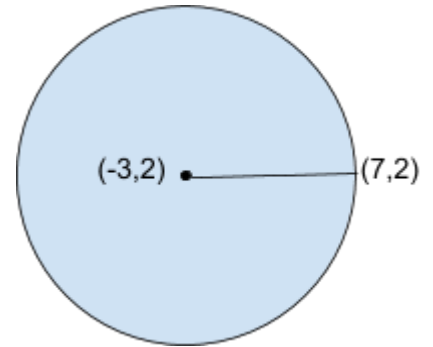
4) Find the equation of the circle:



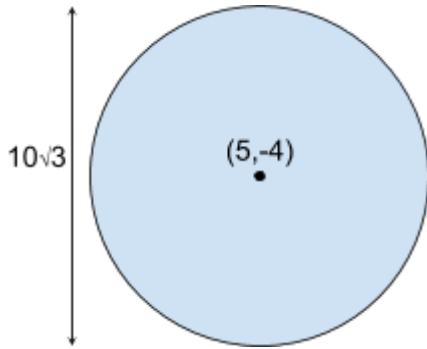
5) Find the equation of the circle:



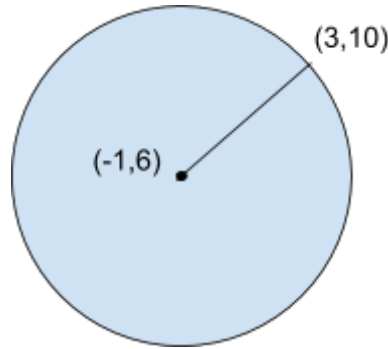
6) Find the equation of the circle:



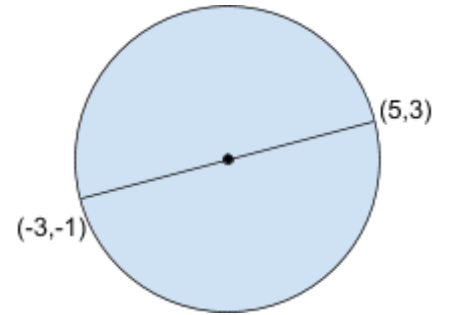
7) Find the equation of the circle:



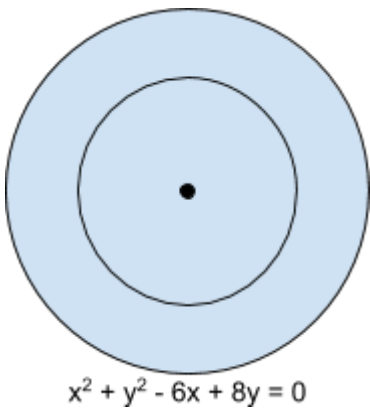
8) Find the equation of the circle:



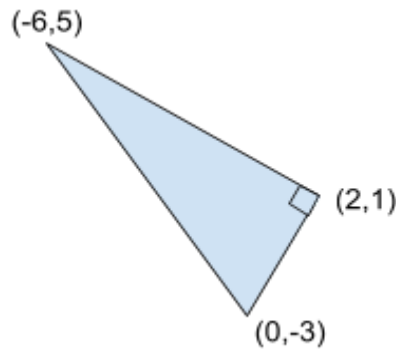
9) Find the equation of the circle:



10) Find the equation of the circle which is concentric to $x^2 + y^2 - 6x + 8y = 0$ but is half as wide.



11) Find the equation of the circle of the circle passing through the vertices of the right angled triangle as shown:



12) Find the equation of the circle with a tangent $y = -2x - 13$ which touches the circle at point (-5,-3), and a tangent $y = -\frac{1}{2}x - 1$ which touches the circle at point (-2,0).

