## The Circle (Q 3, Paper 2)

## 1999

3 (a) $C$ is a circle with centre $(0,0)$ passing through the point $(8,6)$.
Find
(i) the radius length of $C$
(ii) the equation of $C$.
(b) The points $(-1,-1)$ and $(3,-3)$ are the end points of a diameter of a circle $S$.
(i) Find the coordinates of the centre of $S$.
(ii) Find the radius length of $S$.
(iii) Find the equation of $S$.
(c) A circle $K$ has equation $x^{2}+y^{2}=13$.
$T$ is a tangent to $K$ at $(-2,-3)$.
Find the equation of $T$.
Find the equation of the other tangent to $K$ which is parallel to $T$.

## Answers

3
(a) (i) 10
(ii) $x^{2}+y^{2}=100$
(b) (i) $(1,-2)$
(ii) $\sqrt{5}$
(iii) $(x-1)^{2}+(y+2)^{2}=5$
(c) $2 x+3 y+13=0 ; 2 x+3 y-13=0$

