

THE CIRCLE (Q 3, PAPER 2)

2009

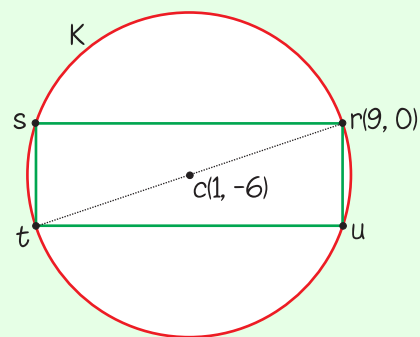
- 3 (a) The circle C has equation $x^2 + y^2 = 25$.
- Write down the radius of C .
 - Verify that the point $(4, -3)$ is on C .
 - The line T is a tangent to C at the point $(4, -3)$. Find the equation of T .
 - On a co-ordinate diagram, draw the circle C and the tangent T .
 - L is a tangent to C and L is parallel to the x -axis. Find the two possible equations of L .

- (b) The point $c(1, -6)$ is the centre of the circle K , as shown.
The point $r(9, 0)$ is on the circle.

- Find the radius of the circle.
- Write down the equation of the circle.

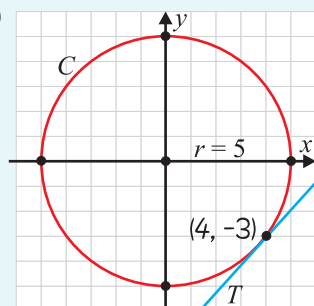
The vertices of the rectangle $rstu$ are on the circle and sr is horizontal.

- Find the co-ordinates of t , the co-ordinates of s and the co-ordinates of u .



ANSWERS

- 3 (a) (i) 5 (iii) $4x - 3y - 25 = 0$
(iv)



- (v) $y = 5, y = -5$

- (c) (i) 10 (ii) $(x-1)^2 + (y+6)^2 = 100$
(iii) $t(-7, -12), s(-7, 0), u(9, -12)$