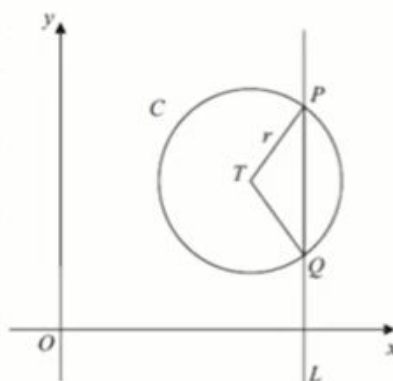




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Equation of a Circle | Past Papers Question | C2 Edexcel June 2012 Q3(a)(b)



The circle C with centre T and radius r has equation

$$x^2 + y^2 - 20x - 16y + 139 = 0$$

(a) Find the coordinates of the centre of C . (3)


(b) Show that $r = 5$ (2)

$$(x - x_1)^2 + (y - y_1)^2 = r^2$$

centre (x_1, y_1) , radius $= r$

a) $x^2 + y^2 - 20x - 16y + 139 = 0$
 $\therefore x^2 - 20x + y^2 - 16y = -139$
 $\therefore (x - 10)^2 - 100 + (y - 8)^2 - 64 = -139$
 $\therefore (x - 10)^2 + (y - 8)^2 = -139 + 164$

$\therefore (x - 10)^2 + (y - 8)^2 = 25$
 \therefore centre $(10, 8)$

b) radius $= \sqrt{25}$
 $= 5$ units 

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