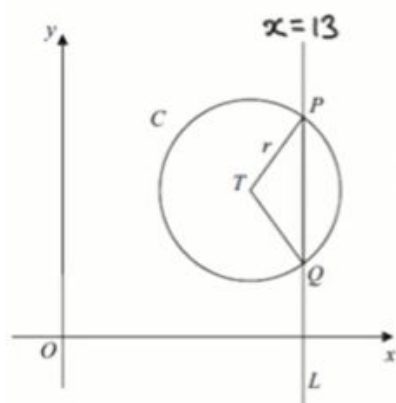




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Circle | Past Paper Question | C2 Edexcel June 2012 Q3(c)



The circle C with centre T and radius r has equation

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

or $(x-10)^2 + (y-8)^2 = 25$ ①

The line L has equation $x = 13$ and crosses C
at the points P and Q as shown

(c) Find the y coordinate of P and the y coordinate of Q . (3)

when $x = 13$,

$$(3)^2 + (y-8)^2 = 25$$

$$\therefore (y-8)^2 = 16$$

$$\therefore y-8 = \pm\sqrt{16}$$

$$\therefore y-8 = 4 \text{ or } y-8 = -4$$

$$\therefore y = 12 \text{ or } y = 4$$

\therefore y coordinate of P is 12
and of Q is 4

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