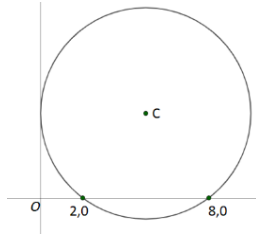


**3 Exam Questions**

**Yr 1 - Circles**

(1) The  $y$  axis is a tangent to the circle shown below.



The circle crosses the  $x$  axis at the points  $(2,0)$  and  $(8,0)$ . Find an equation of the circle.

(2) A circle with equation  $x^2 + 2x + y^2 - 4y - 29 = 0$  has tangents where the  $x$  coordinates are 2. Find the point where the two tangents meet in exact form.

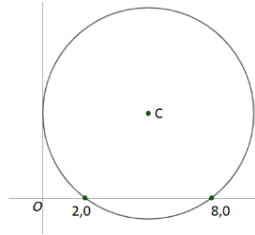
(3) The line with equation  $y = mx + 3$  is a chord to the circle with equation  $(x - 2)^2 + y^2 = 10$ .

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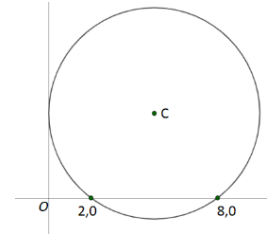
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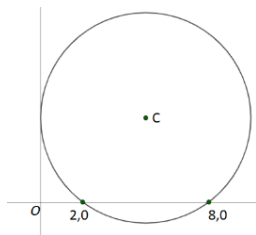
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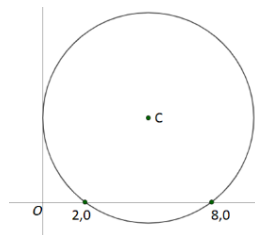
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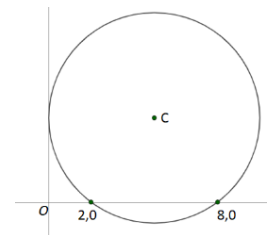
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