1st Class Maths

Equation of a Circle

Revise this topic →

← Check your work

This booklet features original exam style questions designed by me. They do not feature in past papers but are good practice for your exams.

The content is designed to reflect the style of the AQA Level 2 Certificate in Further Maths.
It may not be suitable for other courses.

@1stclassmaths

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Answer **all** questions in the spaces provided.

1 The equation of a circle is $x^2 + y^2 = 16$

1 (a) Write down the coordinates of the centre of the circle. **[1 mark]**

(_____ , _____)

1 (b) Write down the radius of the circle. **[1 mark]**

Answer _____

2 The equation of a circle is $(x - 3)^2 + (y + 2)^2 = 5$

2 (a) Write down the coordinates of the centre of the circle. **[1 mark]**

(_____ , _____)

2 (b) Write down the radius of the circle. **[1 mark]**

Answer _____

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3 Write down the equation of a circle, centre (-3, 1) and radius $\sqrt{10}$. **[2 marks]**

Answer _____

4 Write down the equation of a circle, centre (0, 6) and radius $\frac{1}{2}$ **[2 marks]**

Answer _____

5 A circle has centre (1, -4) and radius 5.

Show that the circle passes through point *P* (4, -8). **[3 marks]**

11

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6 A circle, centre (1, 3) passes through the point P (9, 9)

Work out the equation of the circle. **[3 marks]**

Answer _____

7 AB is the diameter of a circle.
A is (-5,-1) and B is (5, 23)

Work out the equation of the circle. **[3 marks]**

Answer _____

Do not write outside the box

8 Circles C_1 and C_2 both have the same centre (1, -2)

The radius of C_1 is 10.
The difference in the areas of the two circles is 96π

Work out two possible equations for the circle C_2 **[4 marks]**

Answer _____

and

Answer _____

11

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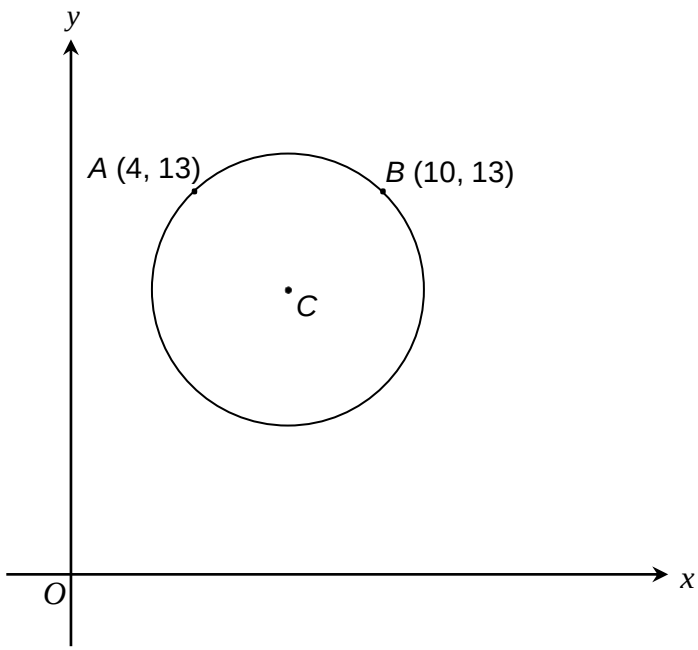
9 The circle, centre *C*, passes through the points *A* (4, 13) and *B* (10, 13)



The area of triangle *ABC* is 12 units^2

Work out the equation of the circle.

[5 marks]

Answer _____

Do not write outside the box

10 The circle with equation $(x - 3)^2 + (y - 3)^2 = 68$ passes through the point P (5, -5)

Work out the equation of the tangent to the circle at the point P. **[4 marks]**

Answer _____

9

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11 The circle with equation $(x - 4)^2 + (y + 1)^2 = 13$ passes through the point Q (6, -4)

Work out the equation of the tangent to the circle at the point Q. **[4 marks]**

Answer _____

4