

**AQA, OCR, Edexcel**

**GCSE**

# **GCSE Maths**

## **Circles and Tangents Answers**

Name:

**M**

**M**

**E**

**Mathsmadeeasy.co.uk**

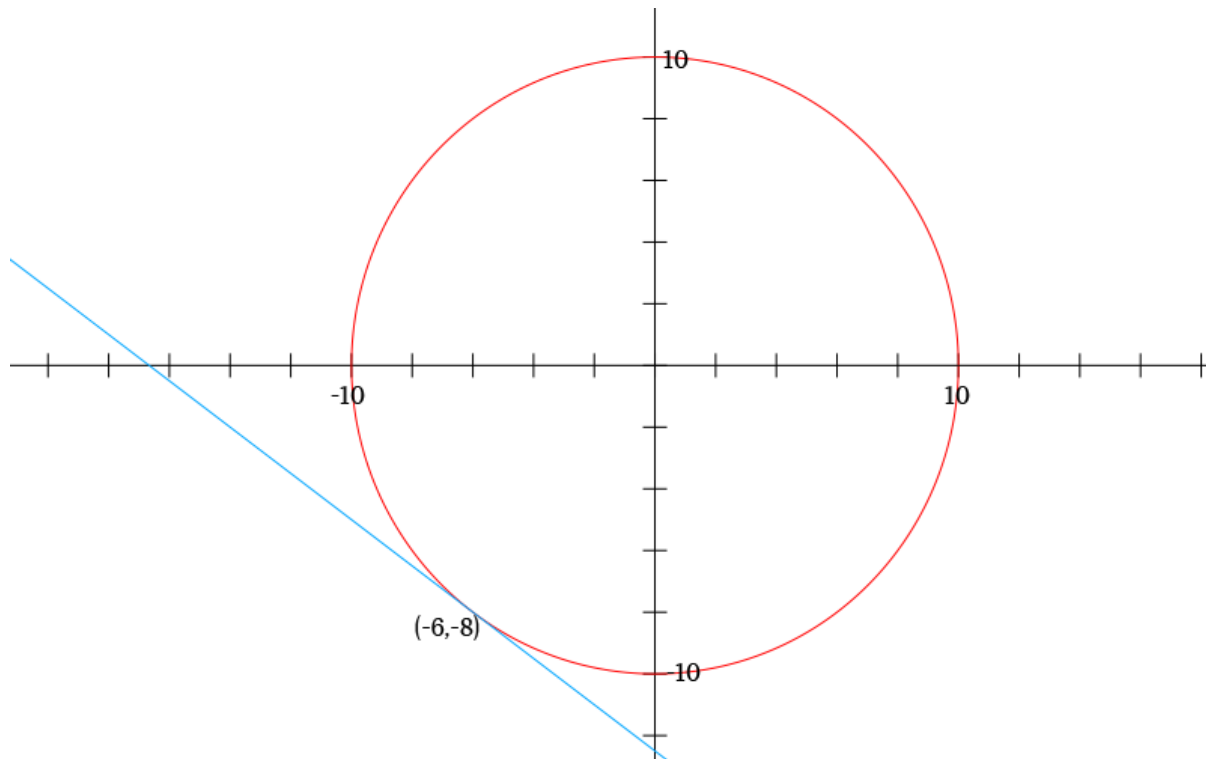
**Total Marks:     /18**

## Circles and tangents

1. Answer the following questions on tangents.

a. On the axis below sketch the graph of

$$x^2 + y^2 = 100.$$



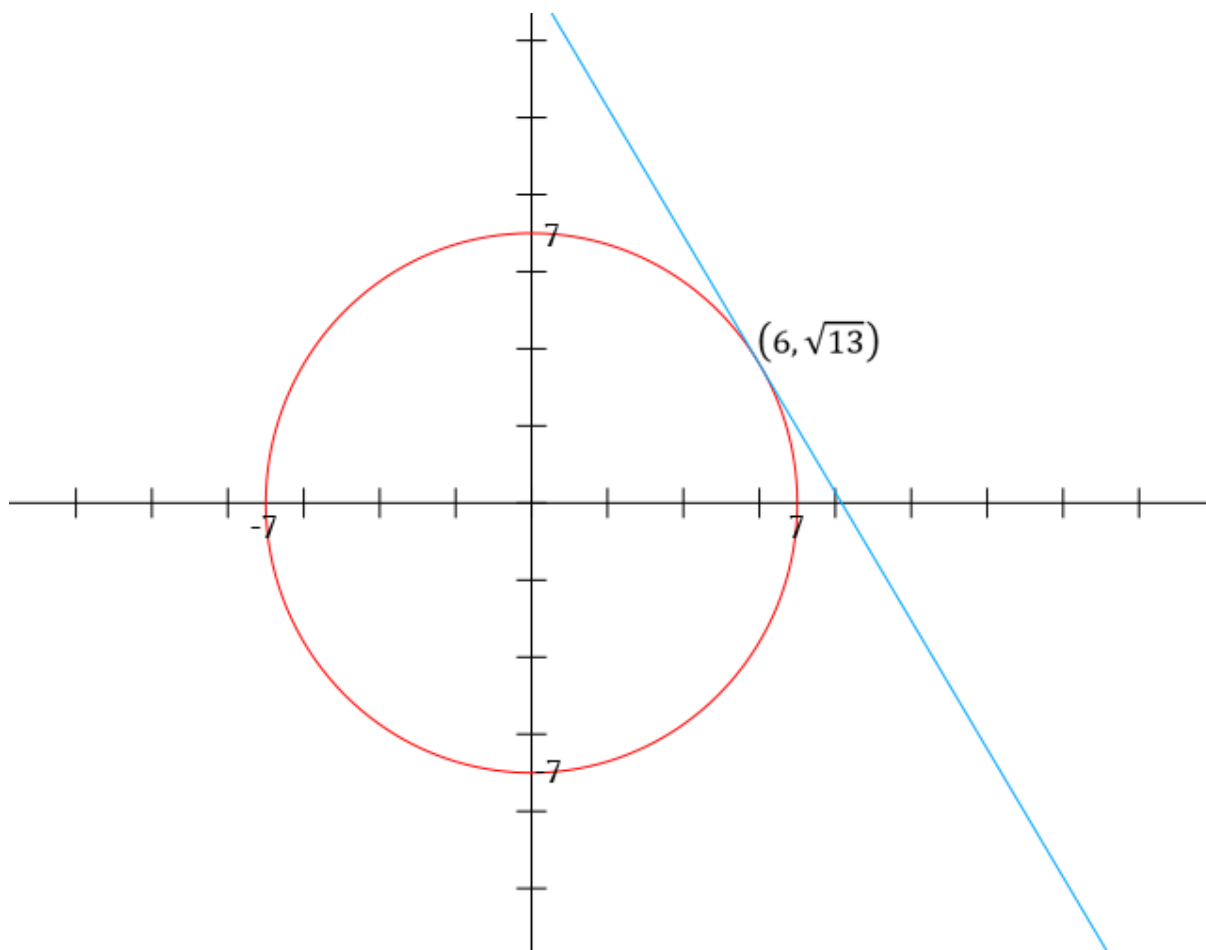
b. Use your sketch from part (a) to find the equation of the tangent to  $x^2 + y^2 = 100$  at the point  $(-6, -8)$ .

$$y = \frac{3}{4}x - \frac{25}{2}$$

(4 Marks)

2. On the axis below sketch the graph of

$$x^2 + y^2 = 49.$$



- a. Use your sketch of  $x^2 + y^2 = 49$  to help you find the equation of the tangent to  $x^2 + y^2 = 49$  at the point  $(6, \sqrt{13})$ .

$$y = \frac{1}{\sqrt{13}}(49 - 6x)$$

(4 Marks)

Visit <http://www.mathsmadeeasy.co.uk/> for more fantastic resources.

3. Find the equation of the tangent to  $x^2 + y^2 = 45$  at the point  $(-3,6)$ .

$$y = \frac{1}{2}(x + 15)$$

(3 Marks)

4. Find the equation of the tangent to  $x^2 + y^2 = 113$  at the point  $(-8,-7)$ .

$$y = -\frac{1}{7}(8x + 113)$$

(3 Marks)

5. Find the equation of the tangent to  $x^2 + y^2 = 50$  at the point  $(2\sqrt{5}, -\sqrt{30})$ .

$$y = \sqrt{\frac{2}{3}}(x - 5\sqrt{5})$$

(4 Marks)