AQA, OCR, Edexcel

GCSE

GCSE Maths

Circles and Tangents Answers

Name:

M M E

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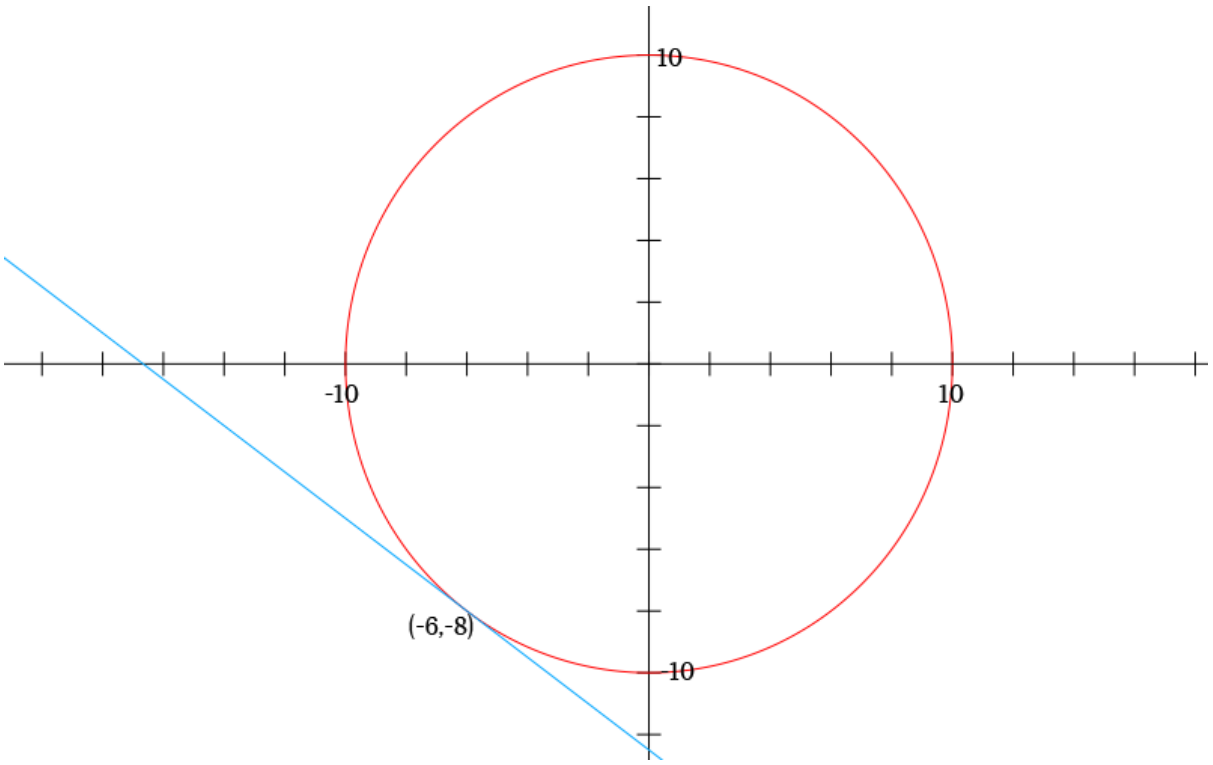
Total Marks: /18

Circles and tangents

1. Answer the following questions on tangents.

a. On the axis below sketch the graph of

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



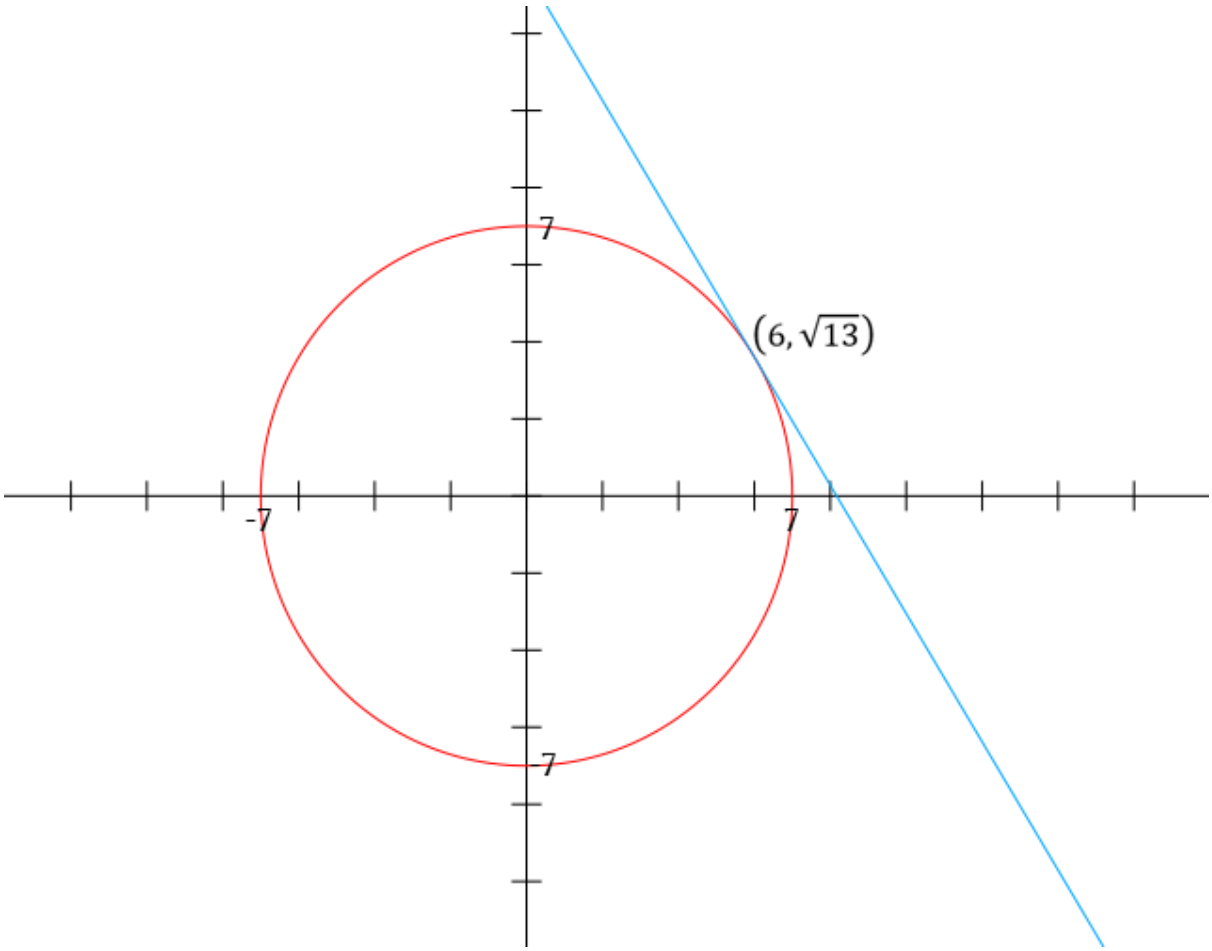
b. Use your sketch from part (a) to find the equation of the tangent to $x^2 + y^2 = 100$ at the point (-6, -8).

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

(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)

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)