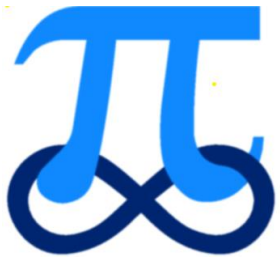
KumarMaths

Pearson Edexcel GCSE Maths (9 – 1) Past Exam Questions by Topics:

Solving Non-Linear Simultaneous Equations.



1. Solve algebraically the simultaneous equations

$$2x^2 - y^2 = 17$$
$$x + 2y = 1$$

(5 marks)

2. Solve algebraically the simultaneous equations

$$x - 2y = 10$$
$$x^2 + y^2 = 20$$

(5 marks)

3. Solve algebraically the simultaneous equations

$$x^2 + y^2 = 25$$
$$y - 3x = 13$$

(5 marks)

4. Solve algebraically

$$x^2 + y^2 = 18$$

$$x - 2y = -3$$

(5 marks)

5. **C** is the curve with equation $y = x^2 - 4x + 4$

L is the straight line with equation $y = 2x - 4$

L intersects **C** at two points, *A* and *B*.

Calculate the exact length of *AB*.

(6 marks)

6. Solve the simultaneous equations

$$2x^2 + 3y^2 = 14$$

$$x = 2y - 3$$

Show clear algebraic working.

(5 marks)

7. Solve the simultaneous equations

$$y = 5x^2$$
$$y - 4 = 3x$$

Show your working clearly.
Give your solutions correct to 2 decimal places.

.....

(4 marks)

8. Solve the simultaneous equations

$$y + 2x = 3$$
$$x^2 + y^2 = 18$$

Show clear algebraic working.

(6 marks)

9. Solve the simultaneous equations

$$y^2 + 4x = 12$$
$$2x + 3y = 10$$

Show clear algebraic working.

.....

(6 marks)

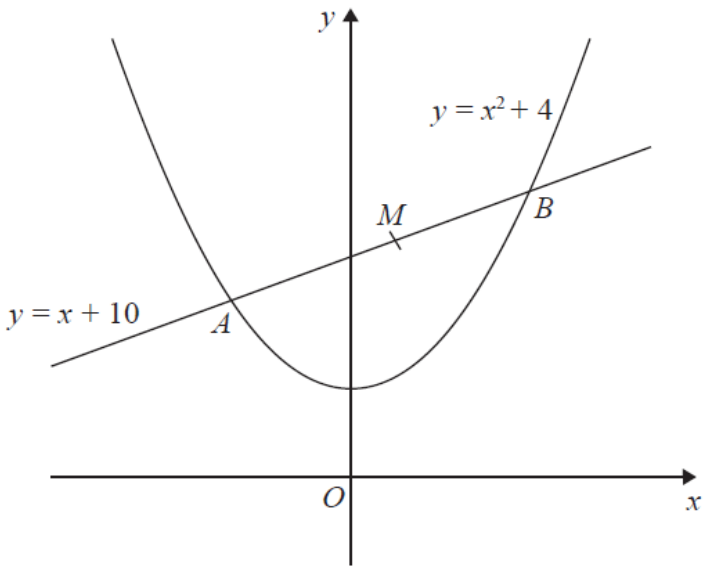
10. Solve the simultaneous equations

$$x^2 + y^2 = 52$$
$$2x + y = 8$$

Show clear algebraic working.

(6 marks)

11. The sketch shows the curve with equation $y = x^2 + 4$ and the line with equation $y = x + 10$



The line cuts the curve at the points A and B.

M is the midpoint of AB.

Find the coordinates of M.

Show clear algebraic working.

(6 marks)

12. Solve the simultaneous equations

$$y = 3x + 2$$

$$x^2 + y^2 = 20$$

Show clear algebraic working.

(6 marks)

13. Solve $x^2 + y^2 = 20$

$$y = 10 - 2x$$

Show clear algebraic working.

(5 marks)

14. Solve the simultaneous equations

$$y = 2x - 3$$

$$x^2 + y^2 = 41$$

Show clear algebraic working.

(6 marks)

15. Solve the simultaneous equations

$$x^2 + y^2 = 26$$

$$y = 3 - 2x$$

Show clear algebraic working.

(6 marks)

16. Solve the simultaneous equations

$$2x - y = 7$$

$$x^2 + y^2 = 34$$

Show clear algebraic working.

(7 marks)

17. Solve the simultaneous equations

$$x^2 + y^2 = 26$$

$$y = 3 - 2x$$

Show clear algebraic working.

(6 marks)