

## Quadratic simultaneous equations

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### Question 1

Solve the simultaneous equations

$$y = 2x - 3$$

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

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**(6 marks)**

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### Question 2

Solve the equations

$$x^2 + y^2 = 36$$

$$x = 2y + 6$$

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**(5 marks)**

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### Question 3

Solve the simultaneous equations

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

$$y = 3 - 2x$$

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**(6 marks)**

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### Question 4

Solve algebraically

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

.....

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**Question 5**

The line  $y = 4 - 4x$  intersects the curve  $y = 3(x^2 - x)$  at the point  $A$  and  $B$ .

Use an algebraic method to find the coordinates of  $A$  and  $B$ .

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**Question 6**

Solve the simultaneous equations

$$y = 3x + 2x^2 + y^2 = 20$$

Show clear algebraic working.

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**(6 marks)**

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