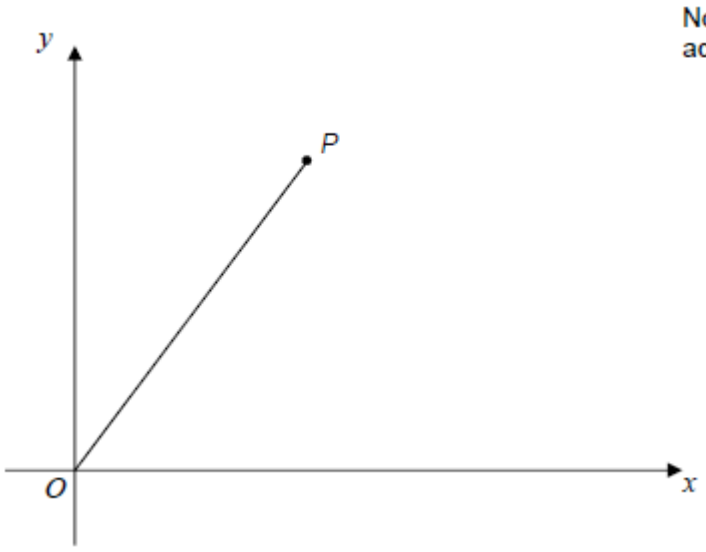
**Q1.**

The diagram shows a line joining *O* to *P*.




The gradient of the line is 2

The length of the line is $\sqrt{2645}$

Work out the coordinates of *P*.

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Answer (....., .....)

**(Total 4 marks)**

**Q2.**

Solve the simultaneous equations

$$y = x^2 - 6x - 20$$

$$y = 4 - x$$

You **must** show your working.

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Answer .....

**(Total 5 marks)**

**Q3.**

Solve the simultaneous equations

$y = 4x + 1$

$y = 2x^2 + 7x - 1$

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Answer

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**(Total 5 marks)**

**Q4.**

Solve the simultaneous equations

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

Do **not** use trial and improvement.
You **must** show your working.

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Answer .....

**(Total 6 marks)**

**Q5.** Work out the points of intersection of the graphs of

$y = (x + 3)(x - 5)$

and $y = 4x + 1$

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Answer .....

**(Total 6 marks)**

**Q6.** Solve the simultaneous equations

$y - x = 2$

$y = 2x^2 + 5x + 1$

Give your answers correct to 1 decimal place.

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Answer .....

**(Total 6 marks)**

**Q7.**(a) Show clearly that $(3x + 1)^2 \equiv 9x^2 + 6x + 1$

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**(1)**

(b) Solve the simultaneous equations $y = 3x + 1$

$y^2 = 4x^2 - x + 7$

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Answer .....

**(5)**

**(Total 6 marks)**

**Q8.**

Solve the simultaneous equations

$$x + y = 4$$

$$y^2 = 4x + 5$$

Do **not** use trial and improvement.

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Answer.....

**(Total 6 marks)**

**Q9.**Solve the simultaneous equations

$$y = 10 - x$$

$$y = 2x^2 + 4$$

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$x$ = ..... , $y$ = .....

$x$ = ..... , $y$ = .....

**(Total 5 marks)**