Non-Calculator

Q1.

Solve $5x - y = 5$
$2y - x^2 = 11$

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

Answer _____

(Total 6 marks)

Q2.

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

(1)

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

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

Answer

(5)

(Total 6 marks)

Q3.

Solve the simultaneous equations

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

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

Answer

(Total 6 marks)

Q4.

Solve the simultaneous equations

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

$$y = 4 - x$$

You **must** show your working.

Answer _____

(Total 5 marks)

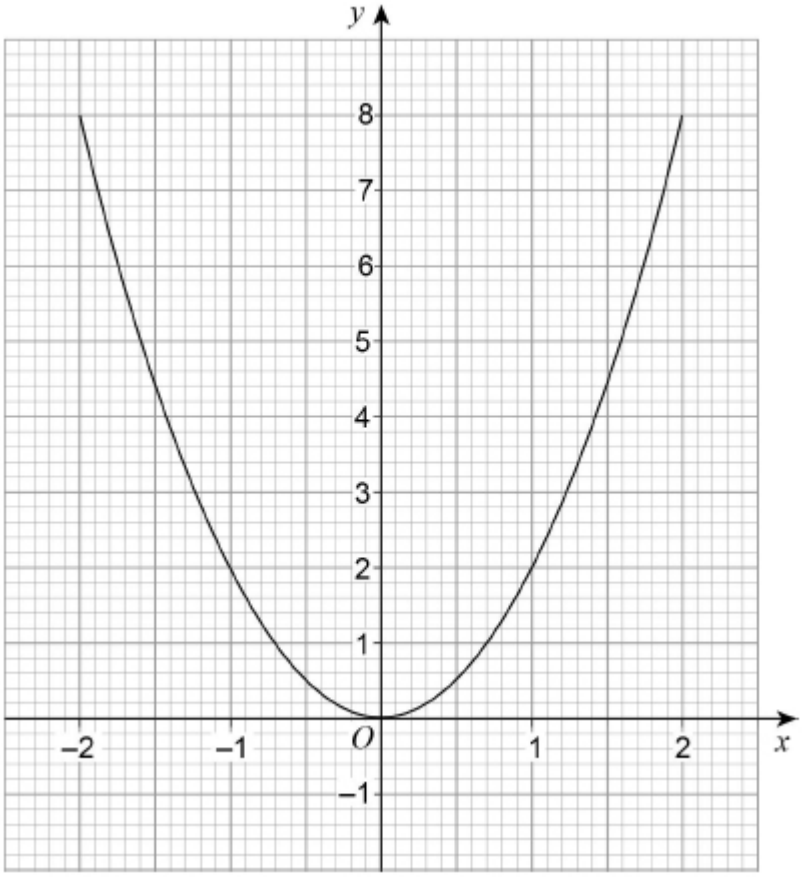
Calculator

Q5.

(a) Meera is using a **graphical** method to solve $2x^2 - 3x = 0$

She draws the graph of $y = 2x^2$ and a straight line graph on the same grid.

Here is the graph of $y = 2x^2$



Complete her method to solve $2x^2 - 3x = 0$

_____

_____

_____

_____

_____

Answer _____

(2)

(b) Levi is solving $2x^2 + 5x = 0$

He uses this method.

$2x^2 + 5x = 0$	subtract $5x$ from both sides
$2x^2 = -5x$	divide both sides by x
$2x = -5$	divide both sides by 2
$x = -2.5$	

Evaluate his method and his answer.

_____

_____

_____

_____

_____

(2)

(Total 4 marks)

Q6.

Solve the simultaneous equations

$$x + y = 4$$

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

Do **not** use trial and improvement.

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____

(Total 6 marks)

Q7.

Work out the points of intersection of the graphs of

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

and $$y = 4x + 1$$

Answer _____

(Total 6 marks)

Q8.

Solve the simultaneous equations

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

Give your answers correct to 1 decimal place.

Answer _____

(Total 6 marks)

Q9.

Solve the simultaneous equations

$y = 4x + 1$

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

Answer _____

(Total 5 marks)