

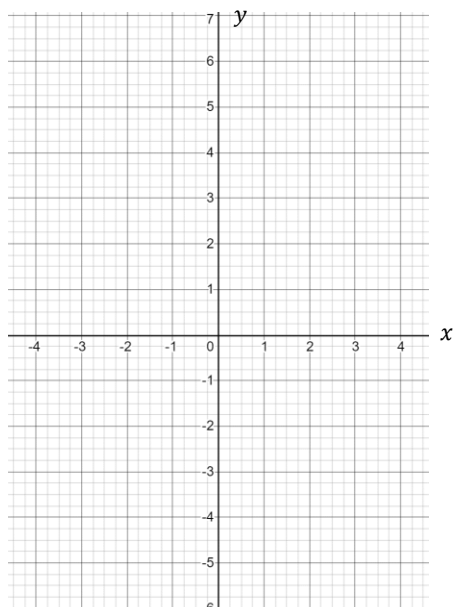


## Quadratic Graphs Exam Practice

Q1.a) Complete the table of values for  $y = x^2 - 5$  [3]

$x$	-3	-2	-1	0	1	2	3
$y$							

b) On the grid, draw the graph of  $y = x^2 - 5$  [3]

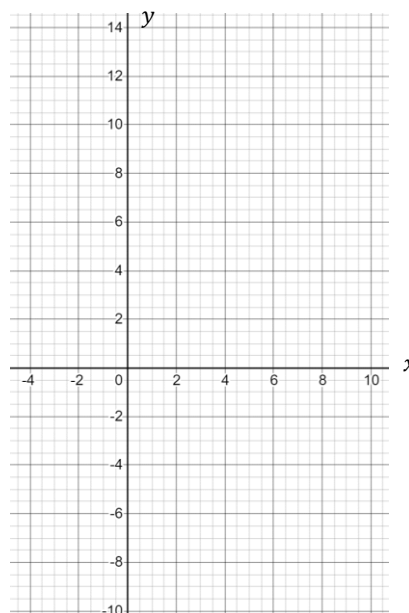


c) Use the graph to estimate the solutions of the equation  $x^2 - 5 = 0$  [3]  
(Total: 9 marks)

Q2.a) Fill in the table of values for  $y = 2x^2 - 7x + 2$

$x$	0	0.5	1	1.5	2	2.5	3
$y$							

b) Draw the graph of  $y = 2x^2 - 7x + 2$  on this grid:

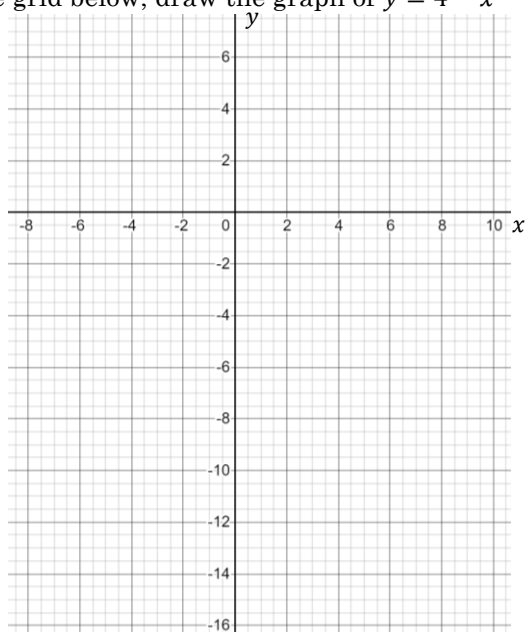


c) Use the graph to estimate the solutions of the equation  $2x^2 - 7x + 2 = 0$  (Total: 9 marks)

Q3. Complete the table of values for  $y = 4 - x^2$

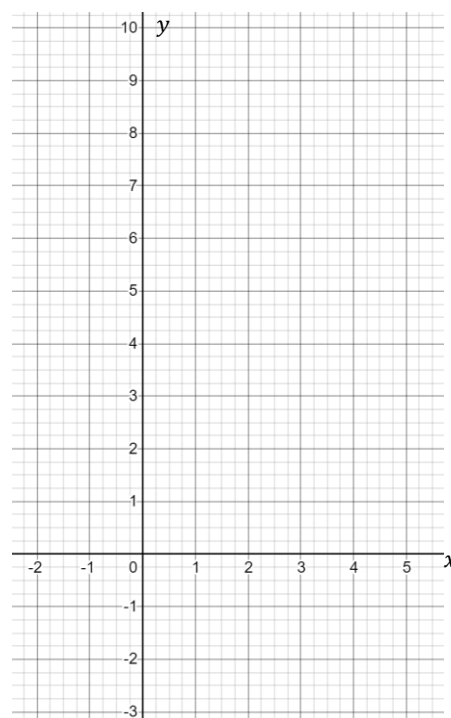
$x$	-3	-2	-1	0	1	2	3
$y$							

a) On the grid below, draw the graph of  $y = 4 - x^2$



b) Hence estimate the solutions of the equation  $4 - x^2 = -10$  (Total: 9 marks)

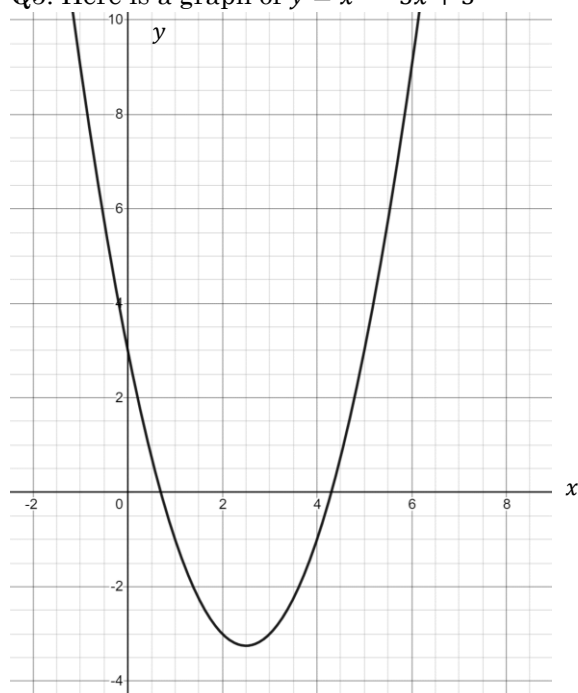
Q4. a) On the grid, draw the graph of  $y = x(x - 3)$



b) Use the graph to estimate the solutions of the equation  $x^2 - 3x - 2 = 0$  (Total: 9 marks)

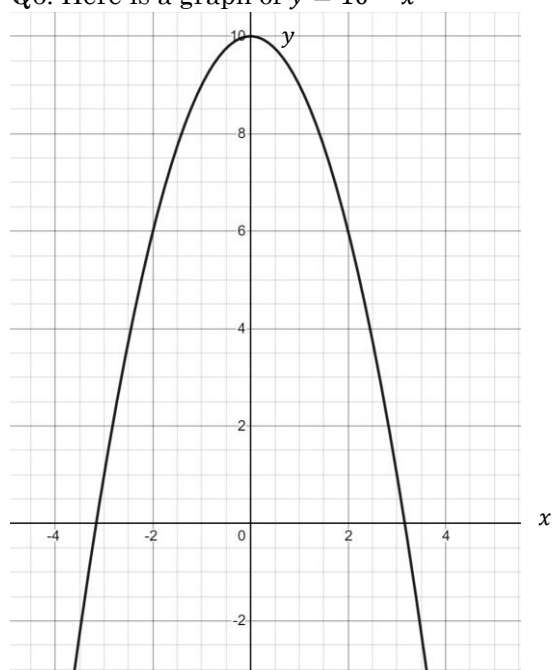


Q5. Here is a graph of  $y = x^2 - 5x + 3$



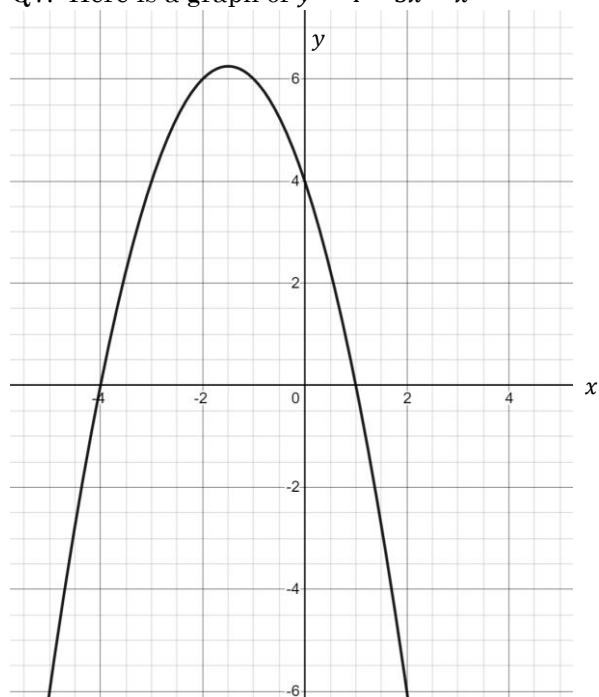
- Use the graph to estimate the solutions of the equation  $x^2 - 5x + 3 = 0$  **(2 marks)**
- Use the graph to estimate the turning point of the graph  $y = x^2 - 5x + 3$  **(2 marks)**

Q6. Here is a graph of  $y = 10 - x^2$



- Use the graph to estimate the solutions of the equation  $10 - x^2 = 2$  **(2 marks)**
- Use the graph to state the turning point of the graph  $y = 10 - x^2$  **(2 marks)**

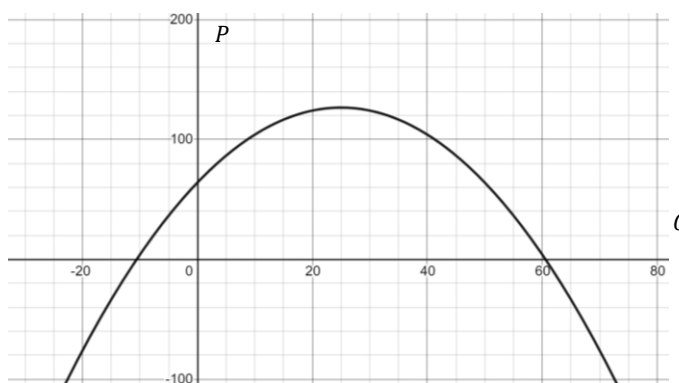
Q7. Here is a graph of  $y = 4 - 3x - x^2$



- Use the graph to estimate the solutions of the inequality  $4 - 3x - x^2 \geq 0$  **(2 marks)**
- Use the graph to estimate the turning point of the graph  $y = 4 - 3x - x^2$  **(2 marks)**

### Applied Problem Solving

Q8. SportsZone model the cost  $C$  (£) they charge for their tennis racket against the profit  $P$  (£) they make from the sale of each racket.



- Use the graph to estimate the price SportZone should charge to make a profit of £40. **(2 marks)**
- Use the graph to estimate the optimal price SportsZone should charge for the racket. **(2 marks)**
- Give 2 reasons why the above model is unrealistic. **(2 marks)**