teachably

Name _____

Date _____

GCSE Mathematics

H

Graphical Solutions to Equations

Higher Tier | Grades 6-8

Total Marks	Time	Questions
40	40 min	20

Instructions:

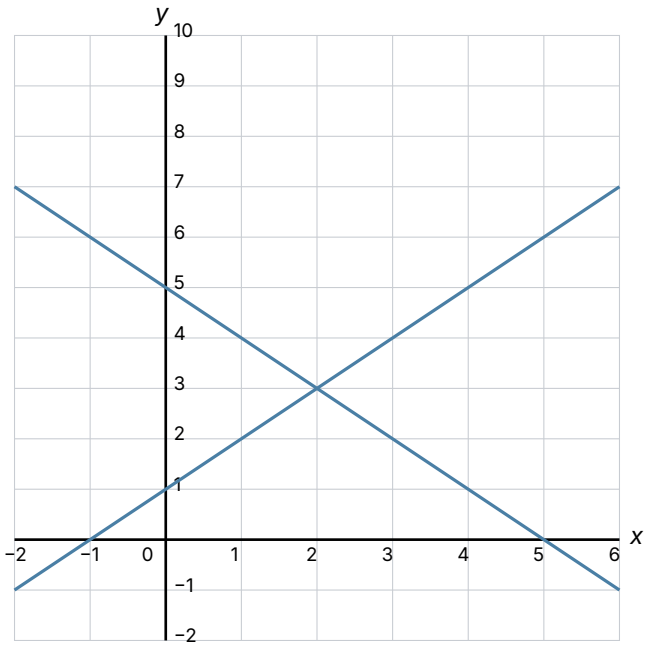
- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

Edexcel-style questions

Q1

Grade 6 Edexcel style

The graph shows the lines y = x + 1 and y = -x + 5. Use the graph to solve the simultaneous equations y = x + 1 and y = -x + 5.



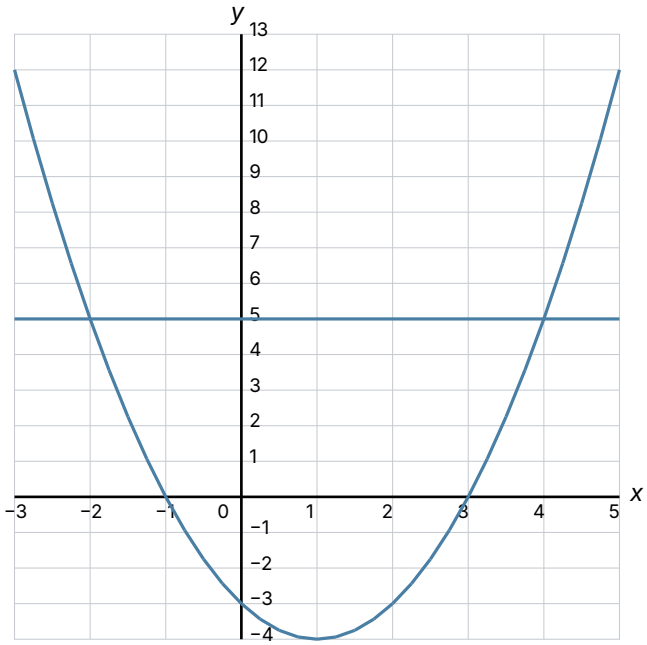
Answer _____

teachably **[2 marks]**

Q2

Grade 6 Edexcel style

The graph shows $y = x^2 - 2x - 3$ and the line $y = 5$. Use the graph to solve $x^2 - 2x - 3 = 5$.



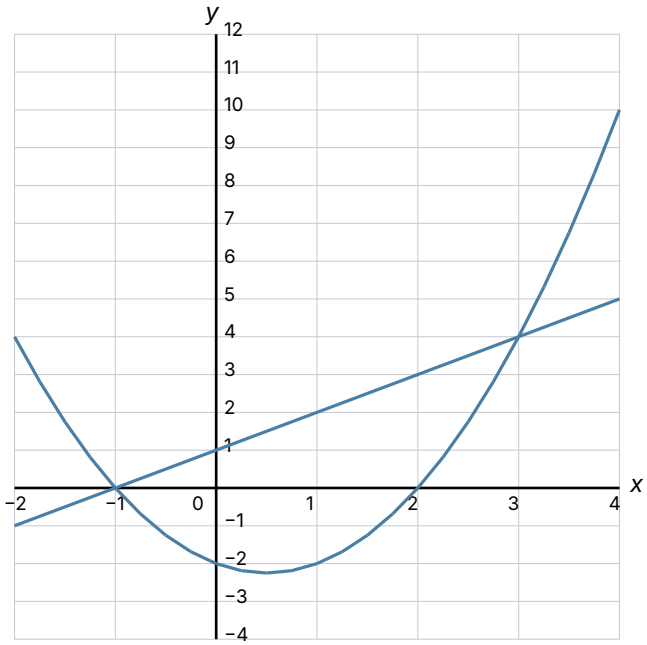
Answer _____

teachably **[2 marks]**

Q3

Grade 7 Edexcel style

The graph shows $y = x^2 - x - 2$ and the line $y = x + 1$. Use the graph to solve $x^2 - x - 2 = x + 1$.



Answer _____

Q4

Grade 7 Edexcel style

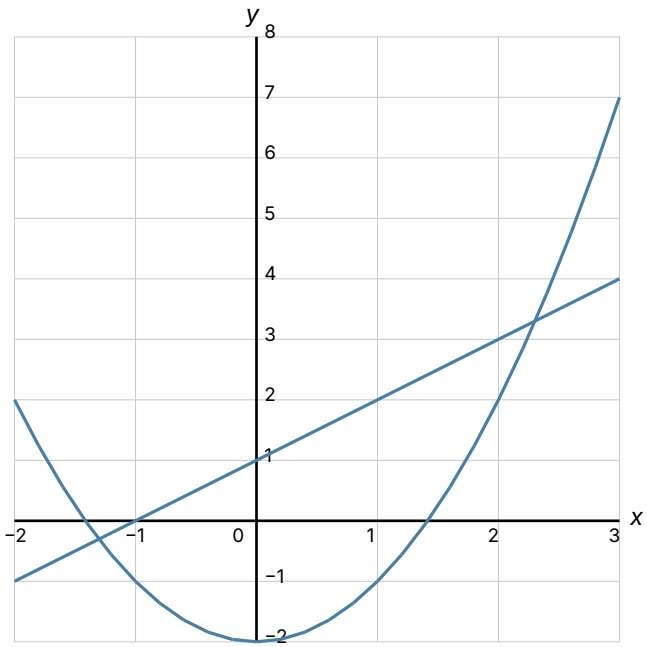
The graphs of $y = x^2 - 3x + 1$ and $y = 2x - 5$ intersect at two points. Write down the equation that must be solved to find the x-coordinates of these points, giving your answer in the form $x^2 + bx + c = 0$.

Answer _____

Q5

Grade 8 Edexcel style

The graph shows $y = x^2 - 2$ and the line $y = x + 1$. Use the graph to estimate the solutions of $x^2 - 2 = x + 1$, giving your answers to 1 decimal place.



Answer _____

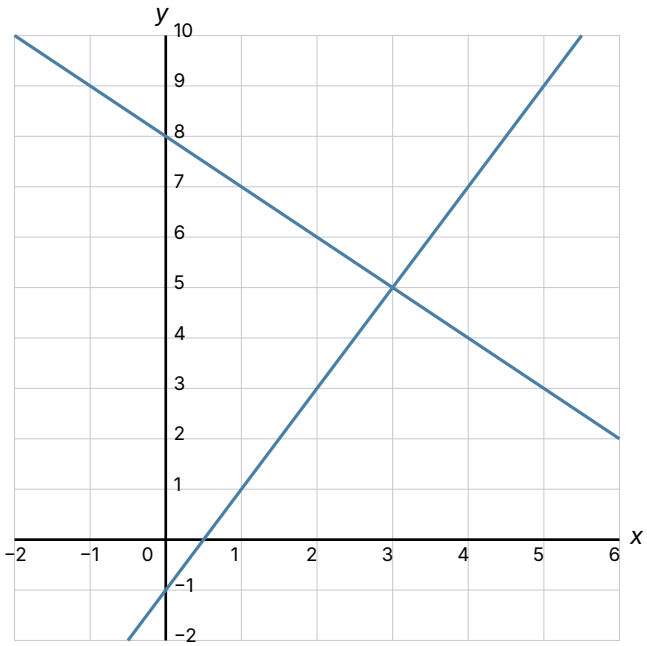
teachably **[2 marks]**

AQA-style questions

Q6

Grade 6 AQA style

The graph shows the lines y = 2x - 1 and y = -x + 8. Use the graph to solve the simultaneous equations y = 2x - 1 and y = -x + 8.



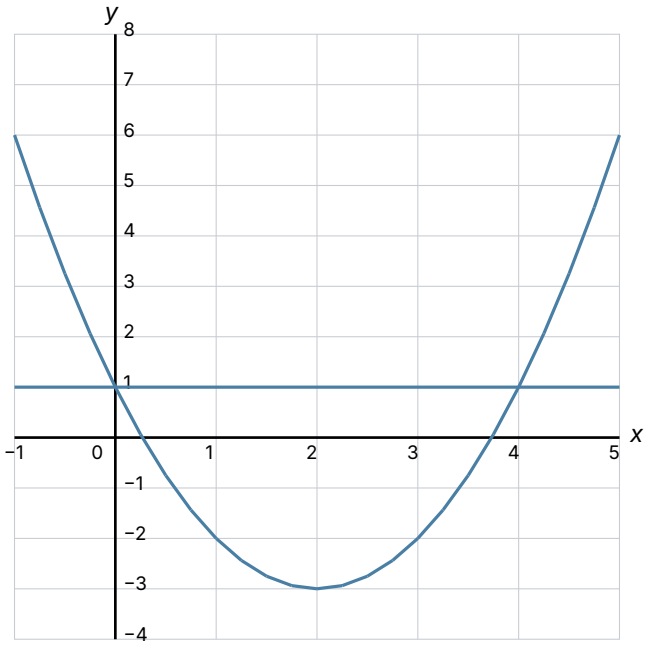
Answer _____

teachably **[2 marks]**

Q7

Grade 6 AQA style

The graph shows $y = x^2 - 4x + 1$ and the line $y = 1$. Use the graph to solve $x^2 - 4x + 1 = 1$.

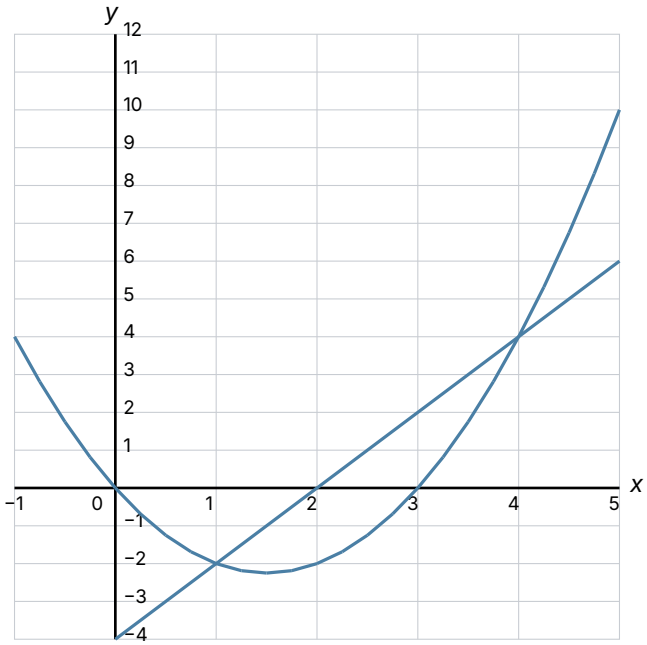


Answer _____

Q8

Grade 7 AQA style

The graph shows $y = x^2 - 3x$ and the line $y = 2x - 4$. Use the graph to solve $x^2 - 3x = 2x - 4$.



Answer _____

Q9

Grade 7 AQA style

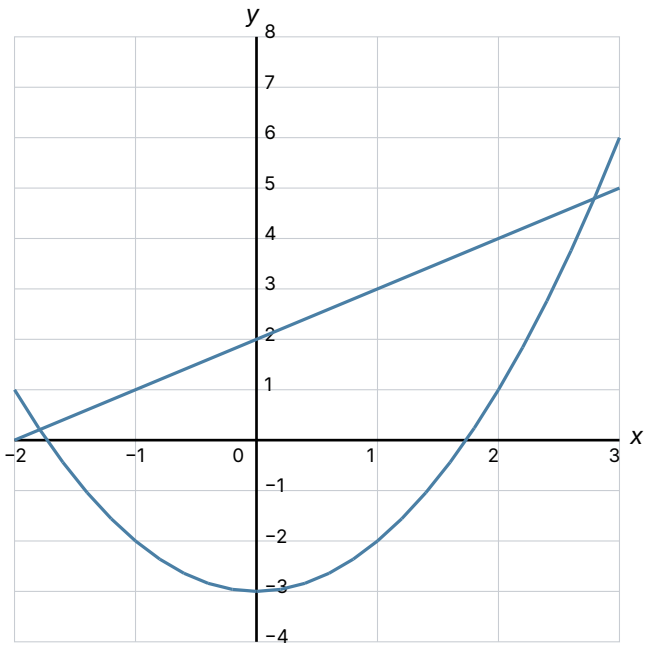
The graphs of $y = x^2 + 2x - 4$ and $y = 3x + 2$ intersect at two points. Write down the equation that must be solved to find the x-coordinates of these points, giving your answer in the form $x^2 + bx + c = 0$.

Answer _____

Q10

Grade 8 AQA style

The graph shows $y = x^2 - 3$ and the line $y = x + 2$. Use the graph to estimate the solutions of $x^2 - 3 = x + 2$, giving your answers to 1 decimal place.



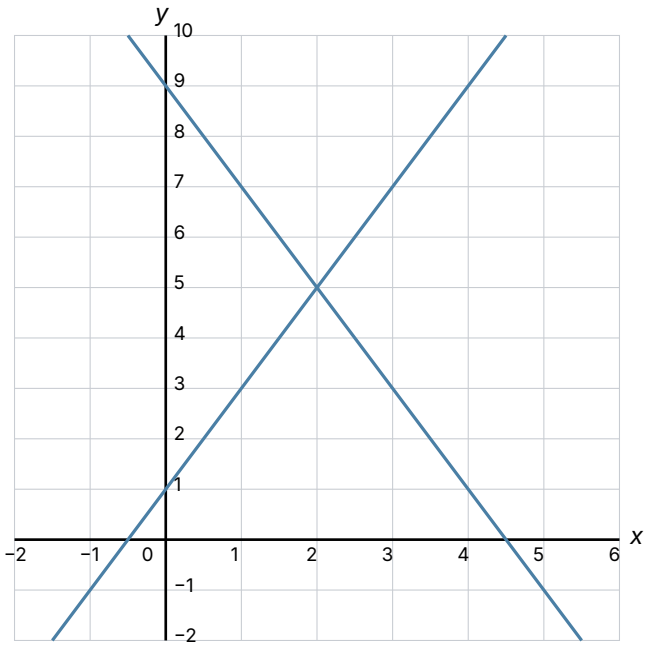
Answer _____

OCR-style questions

Q11

Grade 6 OCR style

The graph shows the lines y = 2x + 1 and y = -2x + 9. Use the graph to solve the simultaneous equations y = 2x + 1 and y = -2x + 9.



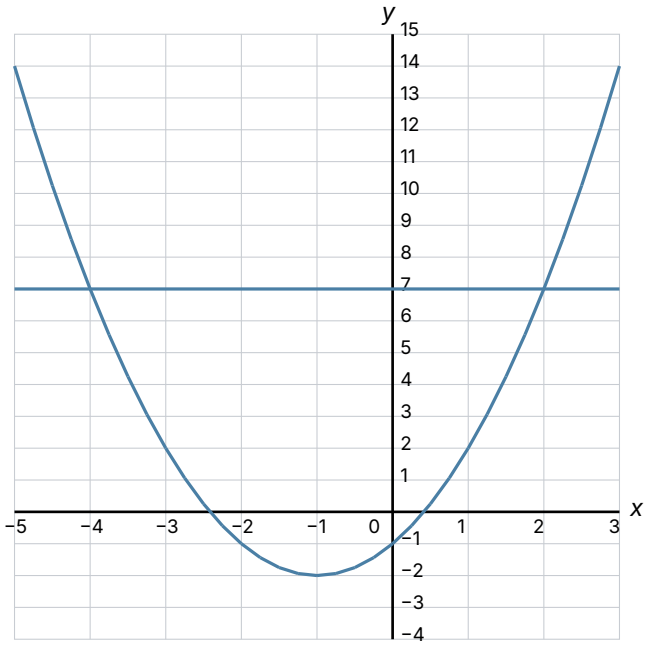
Answer _____

teachably **[2 marks]**

Q12

Grade 6 OCR style

The graph shows $y = x^2 + 2x - 1$ and the line $y = 7$. Use the graph to solve $x^2 + 2x - 1 = 7$.



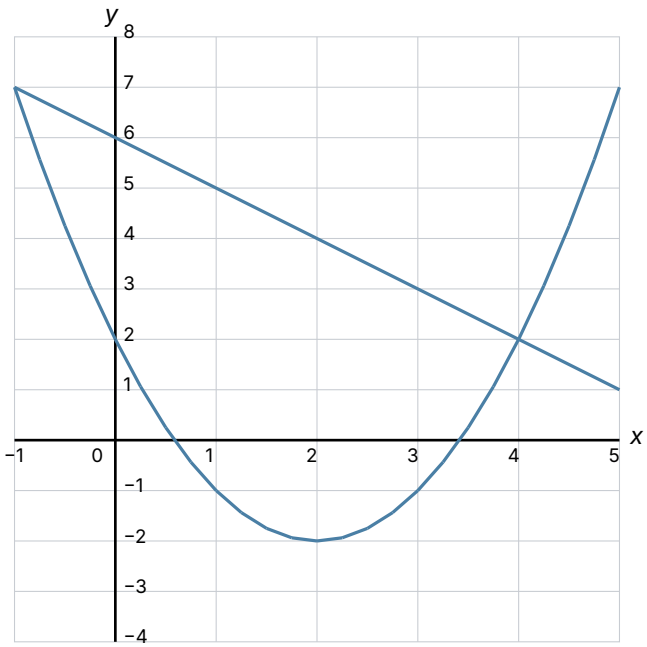
Answer _____

teachably **[2 marks]**

Q13

Grade 7 OCR style

The graph shows $y = x^2 - 4x + 2$ and the line $y = -x + 6$. Use the graph to solve $x^2 - 4x + 2 = -x + 6$.



Answer _____

Q14

Grade 7 OCR style

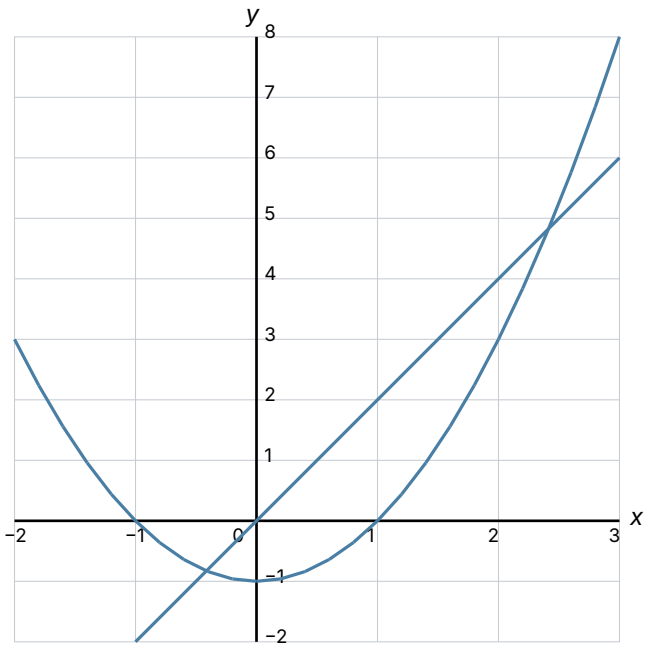
The graphs of $y = x^2 - 5x + 3$ and $y = -x + 9$ intersect at two points. Write down the equation that must be solved to find the x-coordinates of these points, giving your answer in the form $x^2 + bx + c = 0$.

Answer _____

Q15

Grade 8 OCR style

The graph shows $y = x^2 - 1$ and the line $y = 2x$. Use the graph to estimate the solutions of $x^2 - 1 = 2x$, giving your answers to 1 decimal place.



Answer _____

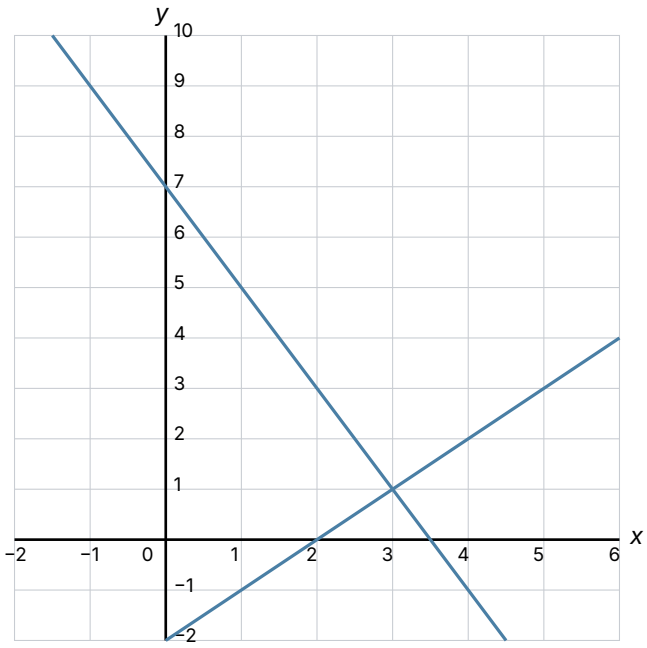
teachably **[2 marks]**

Teachably-style questions

Q16

Grade 6 Teachably style

The graph shows the lines y = x - 2 and y = -2x + 7. Use the graph to solve the simultaneous equations y = x - 2 and y = -2x + 7.



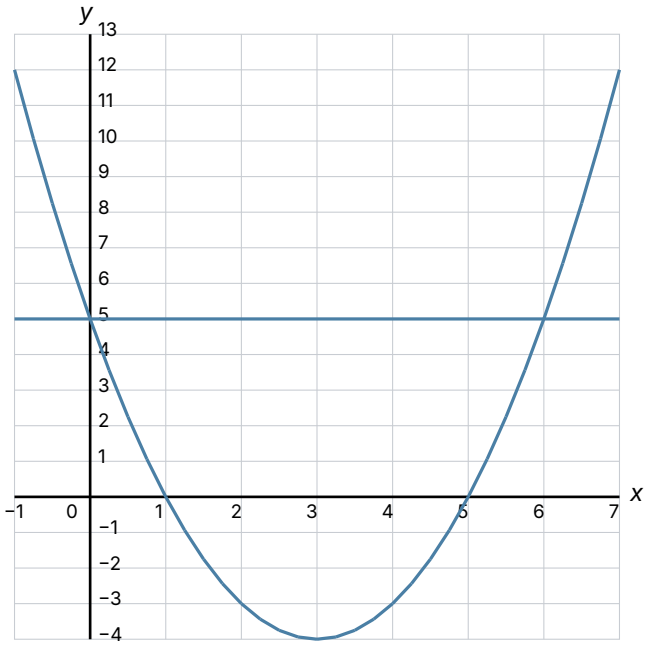
Answer _____

teachably **[2 marks]**

Q17

Grade 6 Teachably style

The graph shows $y = x^2 - 6x + 5$ and the line $y = 5$. Use the graph to solve $x^2 - 6x + 5 = 5$.



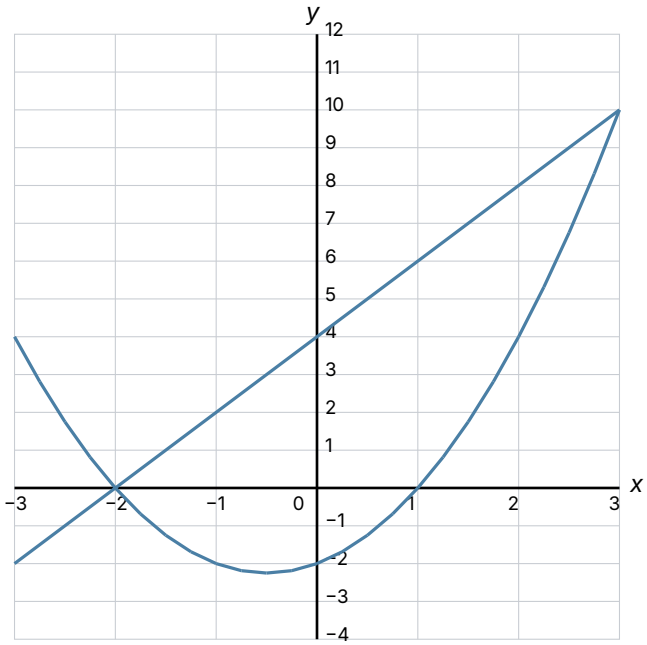
Answer _____

teachably **[2 marks]**

Q18

Grade 7 Teachably style

The graph shows $y = x^2 + x - 2$ and the line $y = 2x + 4$. Use the graph to solve $x^2 + x - 2 = 2x + 4$.



Answer _____

teachably **[2 marks]**

Q19

Grade 7 Teachably style

The graphs of $y = x^2 + 4x - 1$ and $y = x + 5$ intersect at two points. Write down the equation that must be solved to find the x-coordinates of these points, giving your answer in the form $x^2 + bx + c = 0$.

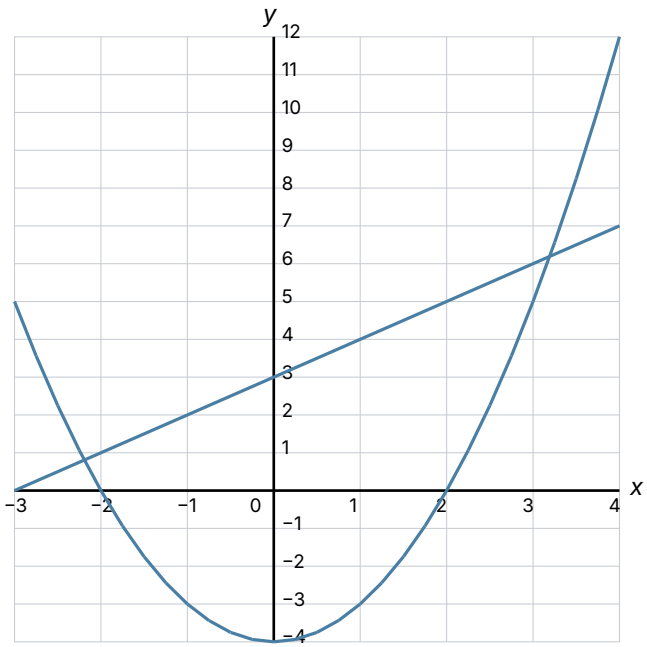
Answer _____

teachably **[2 marks]**

Q20

Grade 8 Teachably style

The graph shows $y = x^2 - 4$ and the line $y = x + 3$. Use the graph to estimate the solutions of $x^2 - 4 = x + 3$, giving your answers to 1 decimal place.



Answer _____

teachably **[2 marks]**

END OF PAPER

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