

GCSE Mathematics

H

Cubic & Reciprocal Graphs

Higher Tier | Grades 7-8

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.

© Teachably. This resource may not be copied or distributed without permission.

Want help from an expert maths tutor?

Book a free GCSE Maths consultation with our team at Teachably. Visit teachably.co.uk/book-call to get started.

Edexcel-style questions**Q1** 

Grade 7

Edexcel style

 $y = x^3 - 4x$. Work out the value of y when $x = 3$.

Answer

teachably

[2 marks]**Q2** 

Grade 7

Edexcel style

 $y = \frac{12}{x}$. Work out the value of y when $x = 4$.

Answer

teachably

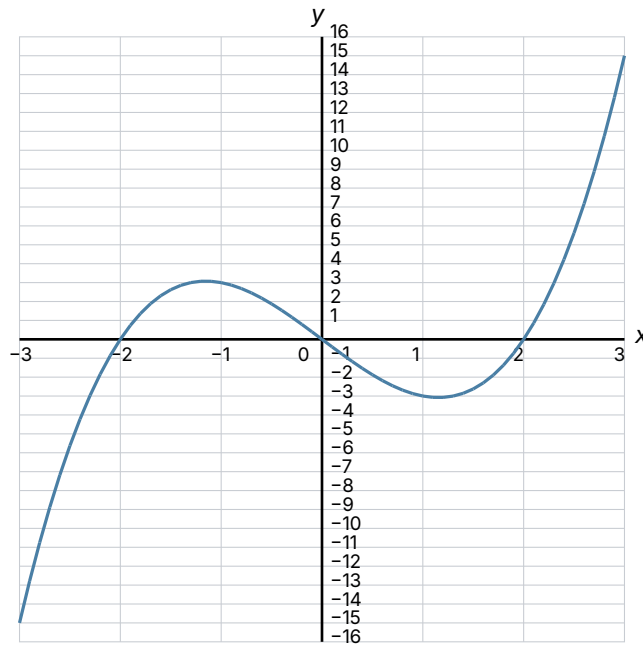
[2 marks]

Q3

Grade 8

Edexcel style

The graph shows $y = x^3 - 4x$. Write down the coordinates of the three points where the curve crosses the x-axis.



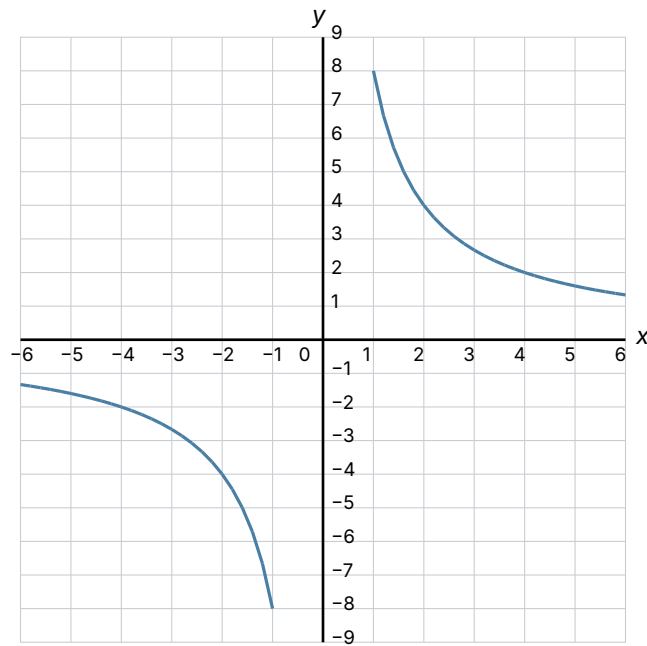
Answer _____

Q4

Grade 7

Edexcel style

The graph shows $y = \frac{8}{x}$ for $x \neq 0$. Write down the equations of the two asymptotes of the curve.



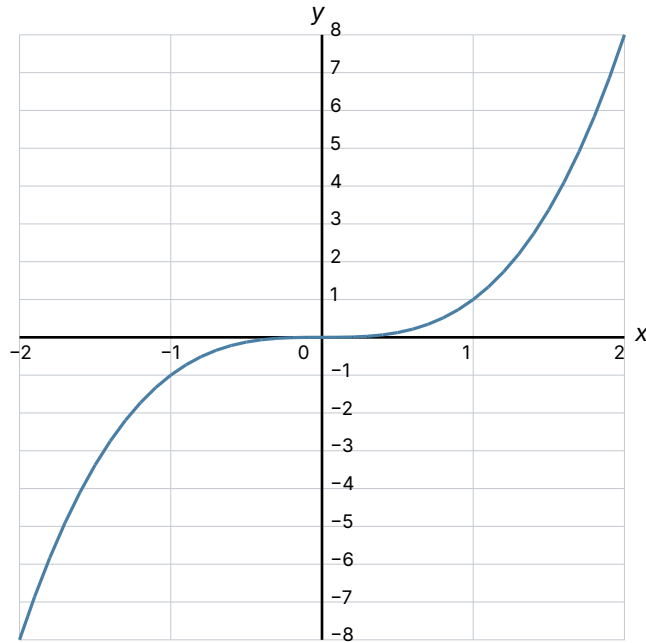
Answer _____

Q5

Grade 8

Edexcel style

The graph shows a curve. Which of these equations could represent the curve: $y = x^3$, $y = -x^3$, $y = \frac{1}{x}$, $y = -\frac{1}{x}$?



Answer _____

AQA-style questions**Q6** 

Grade 7

AQA style

$y = x^3 + 2x$. Work out the value of y when $x = -2$.

Answer

teachably

[2 marks]**Q7** 

Grade 7

AQA style

$y = \frac{20}{x}$. Work out the value of y when $x = -5$.

Answer

teachably

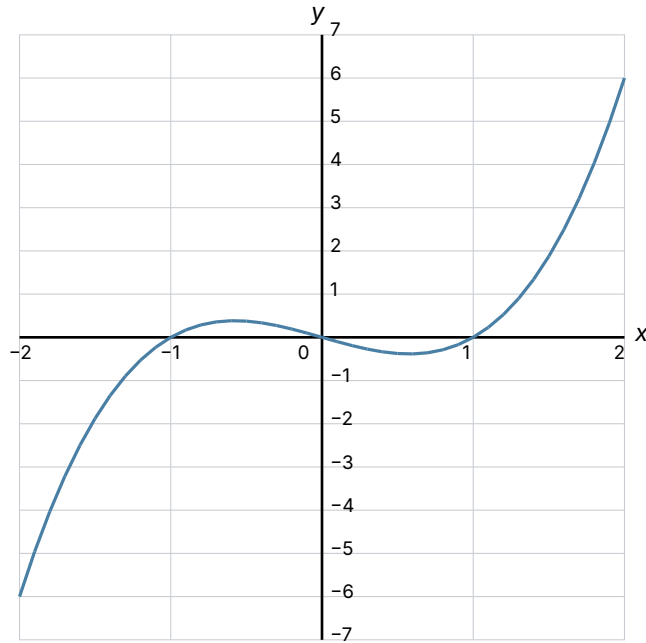
[2 marks]

Q8

Grade 8

AQA style

The graph shows $y = x^3 - x$. Write down the coordinates of the three points where the curve crosses the x-axis.



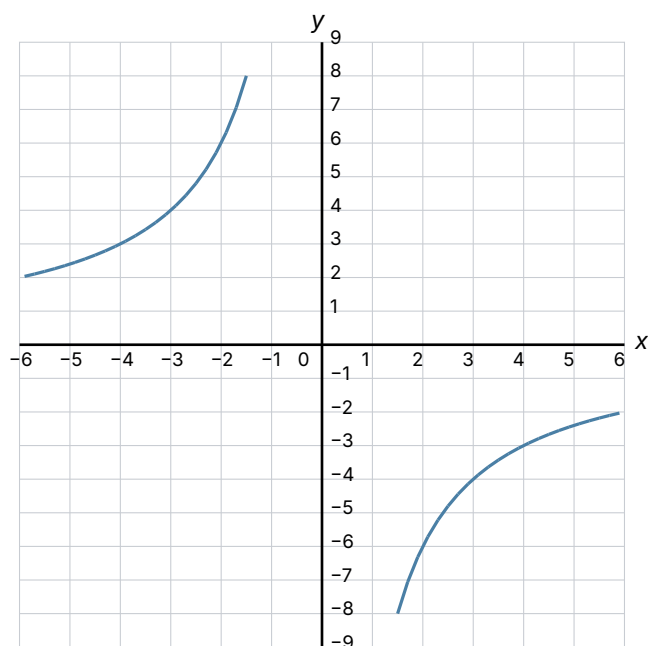
Answer _____

Q9

Grade 7

AQA style

The graph shows $y = -\frac{12}{x}$ for $x \neq 0$. Write down the equations of the two asymptotes of the curve.



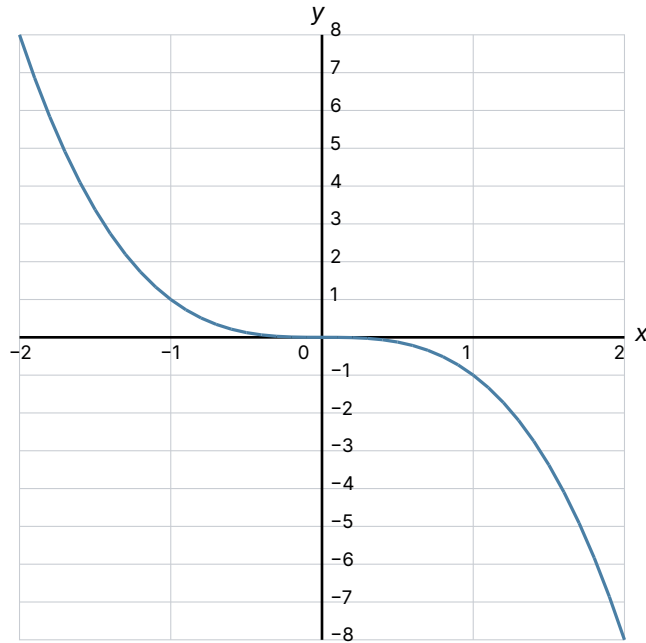
Answer _____

Q10

Grade 8

AQA style

The graph shows a curve. Which of these equations could represent the curve: $y = x^3$, $y = -x^3$, $y = \frac{1}{x}$, $y = -\frac{1}{x}$?



Answer _____

OCR-style questions**Q11** 

Grade 7

OCR style

$y = x^3 - 5$. Work out the value of y when $x = -1$.

Answer

teachably

[2 marks]**Q12** 

Grade 7

OCR style

$y = \frac{18}{x}$. Work out the value of y when $x = -2$.

Answer

teachably

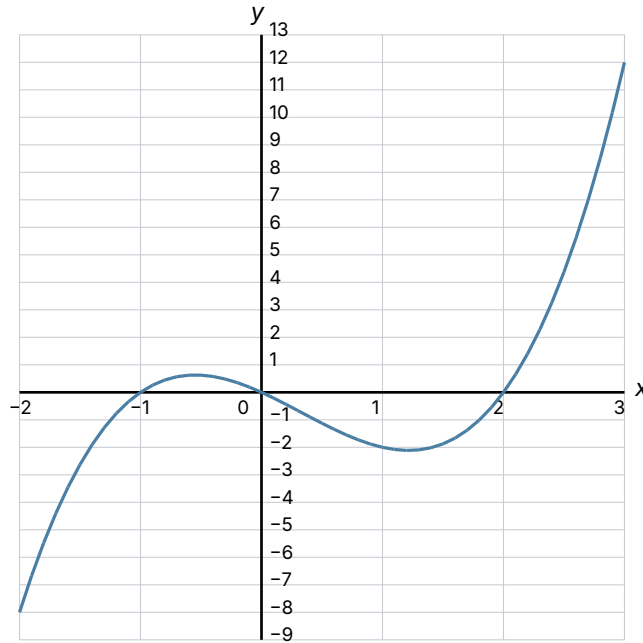
[2 marks]

Q13

Grade 8

OCR style

The graph shows $y = x^3 - x^2 - 2x$. Write down the coordinates of the three points where the curve crosses the x-axis.



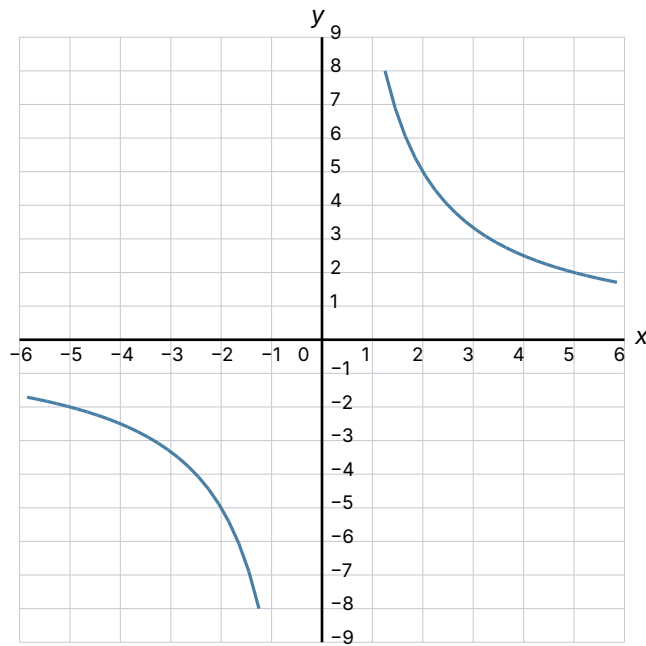
Answer _____

Q14

Grade 7

OCR style

The graph shows $y = \frac{10}{x}$ for $x \neq 0$. Write down the equations of the two asymptotes of the curve.



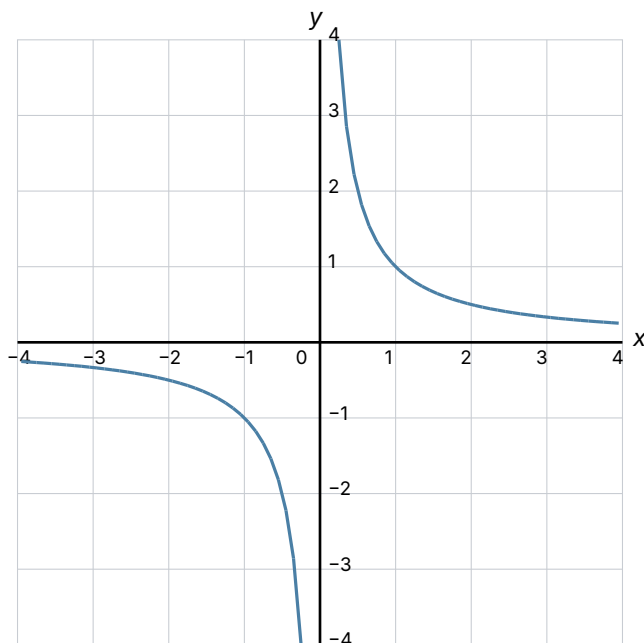
Answer _____

Q15

Grade 8

OCR style

The graph shows a curve. Which of these equations could represent the curve: $y = x^3$, $y = -x^3$, $y = \frac{1}{x}$, $y = -\frac{1}{x}$?



Answer _____

Teachably-style questions**Q16** 

Grade 7

Teachably style

$y = 2x^3 - x$. Work out the value of y when $x = -3$.

Answer

teachably

[2 marks]**Q17** 

Grade 7

Teachably style

$y = \frac{24}{x}$. Work out the value of y when $x = -8$.

Answer

teachably

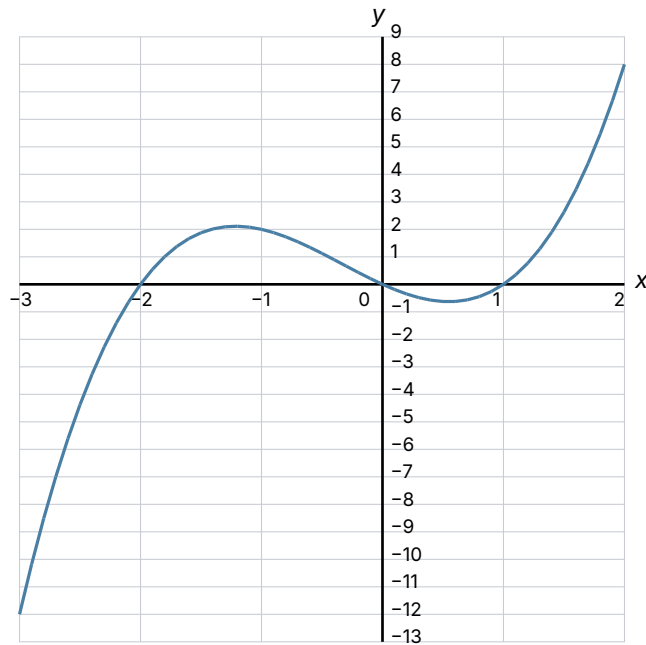
[2 marks]

Q18

Grade 8

Teachably style

The graph shows $y = x^3 + x^2 - 2x$. Write down the coordinates of the three points where the curve crosses the x-axis.



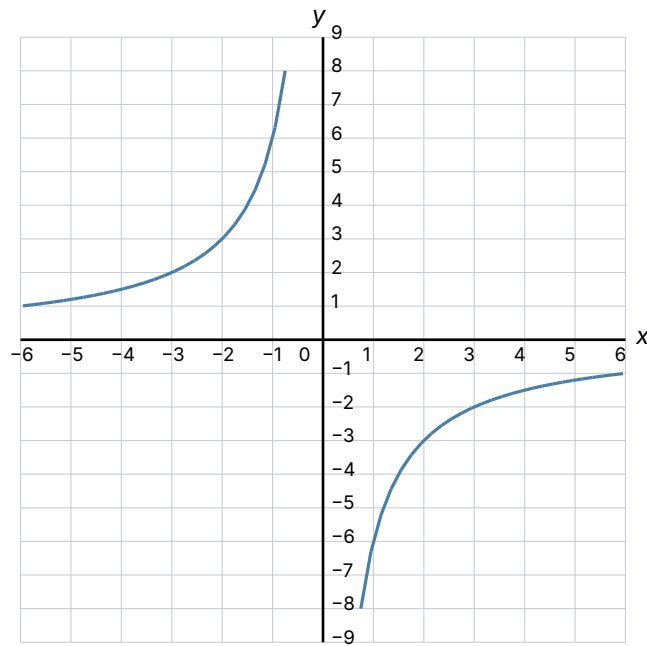
Answer _____

Q19

Grade 7

Teachably style

The graph shows $y = -\frac{6}{x}$ for $x \neq 0$. Write down the equations of the two asymptotes of the curve.



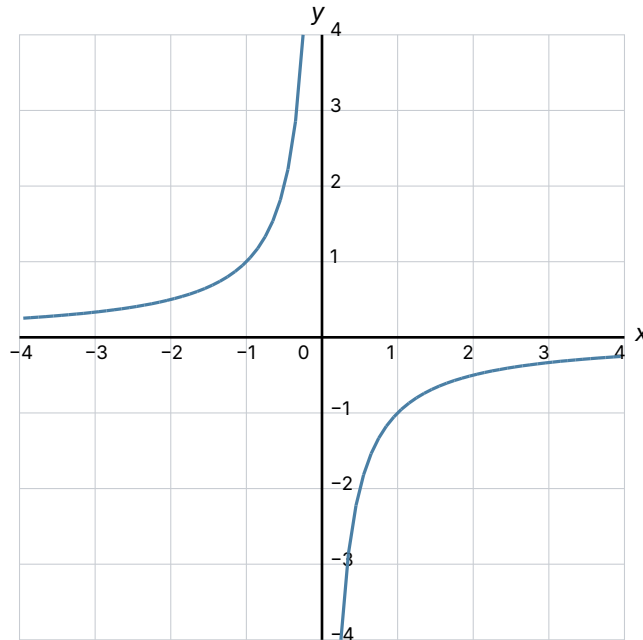
Answer _____

Q20

Grade 8

Teachably style

The graph shows a curve. Which of these equations could represent the curve: $y = x^3$, $y = -x^3$, $y = \frac{1}{x}$, $y = -\frac{1}{x}$?



Answer _____

teachably

[2 marks]

END OF PAPER**Want help from an expert maths tutor?**

Book a free GCSE Maths consultation with our team at Teachably. Visit teachably.co.uk/book-call to get started.