

GCSE Mathematics

H

Graph Transformations

Higher Tier | Grades 8-9

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.

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Edexcel-style questions**Q1** 

Grade 8

Edexcel style

The graph of $y = f(x)$ is transformed to give the graph of $y = f(x) + 5$. Describe fully this single transformation.

Answer

teachably

[2 marks]**Q2** 

Grade 8

Edexcel style

The point (3, 5) lies on the curve $y = f(x)$. Write down the coordinates of the corresponding point on the curve $y = f(x) + 4$.

Answer

teachably

[2 marks]**Q3** 

Grade 8

Edexcel style

The point (3, 5) lies on the curve $y = f(x)$. Write down the coordinates of the corresponding point on the curve $y = -f(x)$.

Answer

teachably

[2 marks]

Q4

Grade 9

Edexcel style

$f(x) = x^2 - 4x + 1$. Find the equation of the graph of $y = f(x - 2)$, giving your answer in the form $y = ax^2 + bx + c$.

Answer _____

teachably

[2 marks]**Q5**

Grade 9

Edexcel style

$f(x) = x^2 - 3x + 2$. Find the equation of $y = -f(x)$, giving your answer in the form $y = ax^2 + bx + c$.

Answer _____

teachably

[2 marks]

AQA-style questions**Q6**

Grade 8

AQA style

The graph of $y = f(x)$ is transformed to give the graph of $y = f(x - 3)$. Describe fully this single transformation.

Answer

teachably

[2 marks]**Q7**

Grade 8

AQA style

The point $(-2, 7)$ lies on the curve $y = f(x)$. Write down the coordinates of the corresponding point on the curve $y = f(x) - 6$.

Answer

teachably

[2 marks]**Q8**

Grade 9

AQA style

The point $(-2, 7)$ lies on the curve $y = f(x)$. Write down the coordinates of the corresponding point on the curve $y = f(-x)$.

Answer

teachably

[2 marks]

Q9

Grade 9

AQA style

$f(x) = x^2 + 2x - 3$. Find the equation of the graph of $y = f(x + 1)$, giving your answer in the form $y = ax^2 + bx + c$.

Answer _____

teachably

[2 marks]**Q10**

Grade 9

AQA style

$f(x) = x^2 + 5x - 1$. Find the equation of $y = -f(x)$, giving your answer in the form $y = ax^2 + bx + c$.

Answer _____

teachably

[2 marks]

OCR-style questions**Q11** 

Grade 8

OCR style

The graph of $y = f(x)$ is transformed to give the graph of $y = f(x) - 4$. Describe fully this single transformation.

Answer

teachably

[2 marks]**Q12** 

Grade 8

OCR style

The point $(4, -1)$ lies on the curve $y = f(x)$. Write down the coordinates of the corresponding point on the curve $y = f(x - 3)$.

Answer

teachably

[2 marks]**Q13** 

Grade 8

OCR style

The point $(4, -6)$ lies on the curve $y = f(x)$. Write down the coordinates of the corresponding point on the curve $y = -f(x)$.

Answer

teachably

[2 marks]

Q14

Grade 9

OCR style

$f(x) = x^2 - 2x - 5$. Find the equation of the graph of $y = f(x - 3)$, giving your answer in the form $y = ax^2 + bx + c$.

Answer _____

teachably

[2 marks]**Q15**

Grade 9

OCR style

$f(x) = x^2 - x - 6$. Find the equation of $y = 2f(x)$, giving your answer in the form $y = ax^2 + bx + c$.

Answer _____

teachably

[2 marks]

Teachably-style questions**Q16**

Grade 8

Teachably style

The graph of $y = f(x)$ is transformed to give the graph of $y = f(x + 2)$. Describe fully this single transformation.

Answer

teachably

[2 marks]**Q17**

Grade 8

Teachably style

The point $(-5, 2)$ lies on the curve $y = f(x)$. Write down the coordinates of the corresponding point on the curve $y = f(x + 4)$.

Answer

teachably

[2 marks]**Q18**

Grade 9

Teachably style

The point $(-3, -4)$ lies on the curve $y = f(x)$. Write down the coordinates of the corresponding point on the curve $y = f(-x)$.

Answer

teachably

[2 marks]

Q19

Grade 9

Teachably style

$f(x) = x^2 + 3x + 2$. Find the equation of the graph of $y = f(x + 2)$, giving your answer in the form $y = ax^2 + bx + c$.

Answer _____

teachably

[2 marks]

Q20

Grade 9

Teachably style

$f(x) = x^2 + 4x - 3$. Find the equation of $y = 3f(x)$, giving your answer in the form $y = ax^2 + bx + c$.

Answer _____

teachably

[2 marks]

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