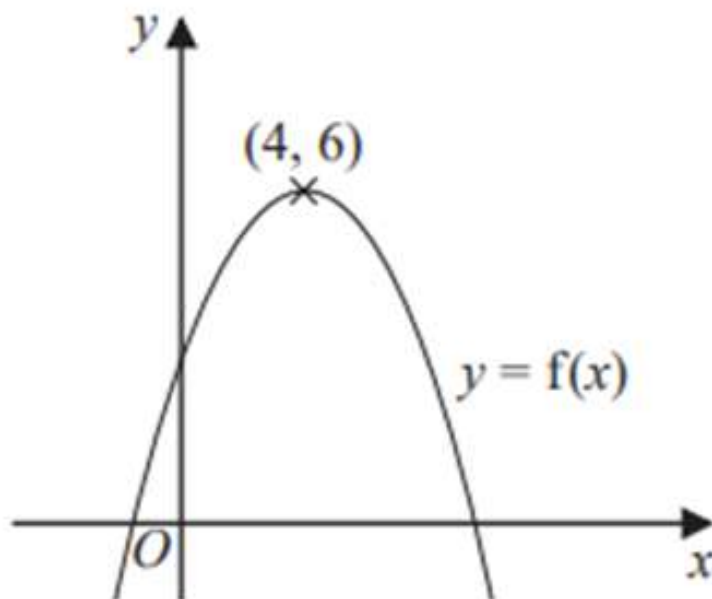

EDEXCEL IGCSE MATHEMATICS

PAPER 2H & 2HR (LINEAR)

GRAPHS - TRANSFORMATION OF GRAPHS

QP & MS (2018 - 2025)



COMPILED BY:
SIR MUHAMMAD ABDULLAH SHAH



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EDEXCEL IGCSE MATHEMATICS LINEAR 2H & 2HR – TRANSFORMATION OF GRAPHS

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1. June 2024 2HR/Q23

A curve has equation $y = f(x)$

There is only one minimum point on the curve.
The coordinates of this minimum point are (5, 4)

Write down the coordinates of the minimum point on the curve with equation

(i) $y = f(x + 5)$

(.....,)
(1)

(ii) $y = 3f(x)$

(.....,)
(1)

(iii) $y = f(x) - 7$

(.....,)
(1)

(Total for Question 19 is 3 marks)



EDEXCEL IGCSE MATHEMATICS LINEAR 2H & 2HR – TRANSFORMATION OF GRAPHS

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2. June 2024 2HR/Q23

A curve has equation $y = f(x)$

The coordinates of the minimum point on this curve are $(6, -3)$

Write down the coordinates of the minimum point on the curve with equation

(i) $y = f(x) + 10$

(.....,)
(1)

(ii) $y = f(3x)$

(.....,)
(1)

(Total for Question 23 is 2 marks)

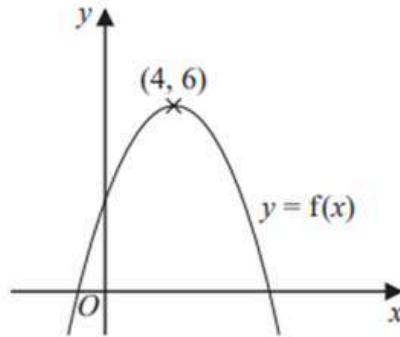


EXAM PREP ARENA
HUB OF EXAM PREPARATION



3. Jan 2020 2H/Q21

The diagram shows a sketch of part of the curve with equation $y = f(x)$



There is one maximum point on this curve.
The coordinates of this maximum point are (4, 6)

(a) Write down the coordinates of the maximum point on the curve with equation

(i) $y = f(x + 4)$

(.....,) (1)

(ii) $y = f(2x)$

(.....,) (2)

The equation of a curve C is $y = x^2 + 3x + 4$

The curve C is transformed to curve S under the translation $\begin{pmatrix} 4 \\ 6 \end{pmatrix}$

(b) Find an equation of curve S.

You do not need to simplify the equation.

.....
(2)

(Total for Question 21 is 4 marks)

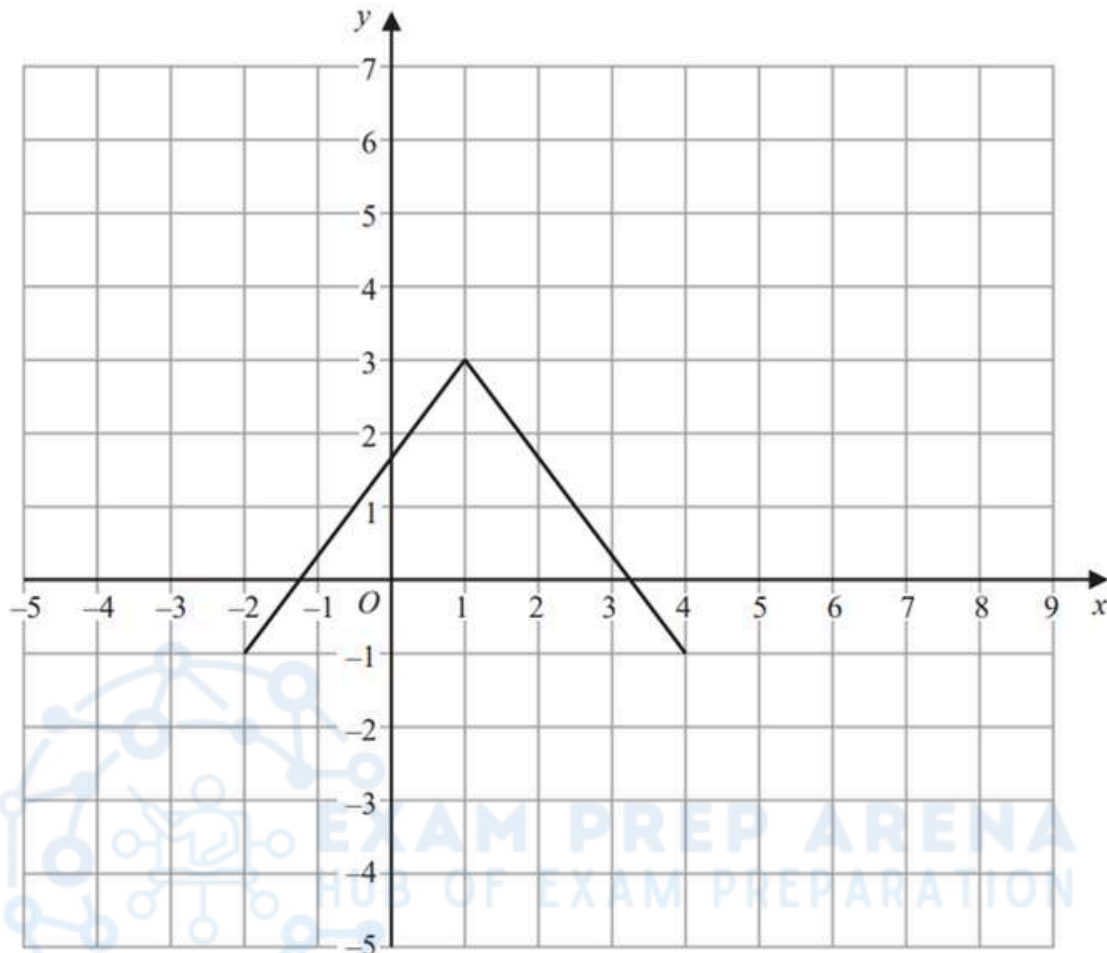


EDEXCEL IGCSE MATHEMATICS LINEAR 2H & 2HR - TRANSFORMATION OF GRAPHS

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4. June 2018 2HR/Q21

Here is the graph of $y = f(x)$



(a) On the grid above, draw the graph of $y = 2f(x)$

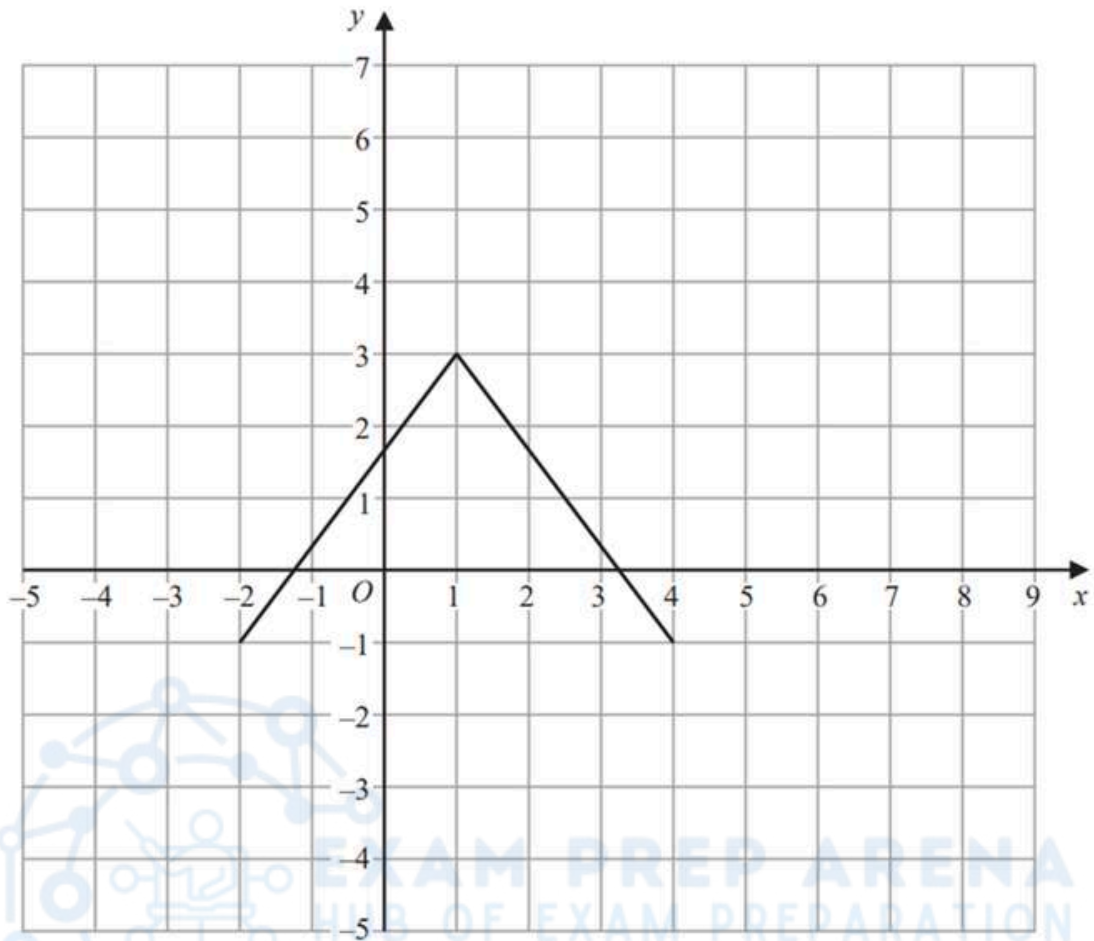
(2)



EDEXCEL IGCSE MATHEMATICS LINEAR 2H & 2HR - TRANSFORMATION OF GRAPHS

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Here is the graph of $y = f(x)$



(b) On the grid above, draw the graph of $y = f(-x)$

(2)

(Total for Question 21 is 4 marks)



EDEXCEL IGCSE MATHEMATICS LINEAR 2H & 2HR - TRANSFORMATION OF GRAPHS

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MARKING SCHEME

1. June 2024 2HR/Q23

19	(i)		(0, 4)	1	B1
	(ii)		(5, 12)	1	B1
	(iii)		(5, -3)	1	B1
Total 3 marks					

2. June 2024 2HR/Q23

23	(i)		(6, 7)	1	B1
	(ii)		(2, -3)	1	B1
Total 2 marks					

3. Jan 2020 2H/Q21

22	(a)(i)		(-3, -1)	1	B1
	(ii)		(-6, 2)	1	B1
	(b)		$(p+c, -q)$	2	B2 for $(p+c, -q)$ (B1 for $p+c$ or $-q$ in the correct place)
Total 4 marks					

4. June 2018 2HR/Q21

Question	Working	Answer	Mark	Notes
21 (a)		$(-2, -2), (1, 6), (4, -2)$ Plotted and joined	2	B2 Fully correct graph- professional judgment required. (B1 for $(1, 6)$ plotted OR $(-2, -2)$ and $(4, -2)$ plotted)
(b)		$(2, -1), (-1, 3), (-4, -1)$ Plotted and joined	2	B2 Fully correct graph - professional judgment required. (B1 for 2 of the 3 points plotted) SC B1 for a correct reflection in the x-axis
Total 4 marks				

