



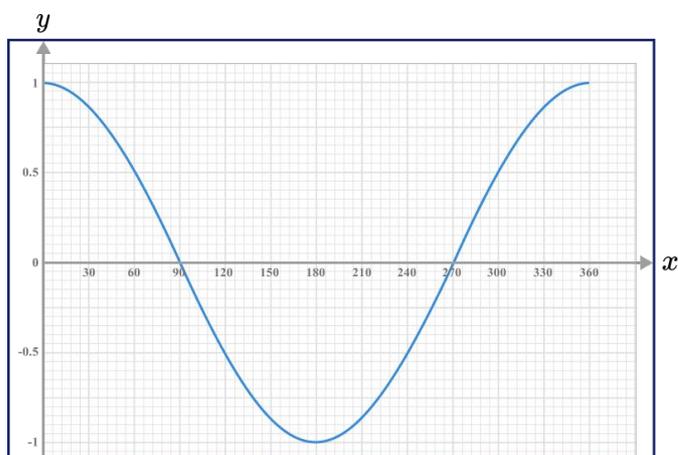
THIRD SPACE  
LEARNING

# GCSE Exam Questions

Transformations of Graphs |  
Algebra

## GCSE Exam Questions: Transformations of Graphs

- 1) Shown below is the graph of  $y = \cos(x)$

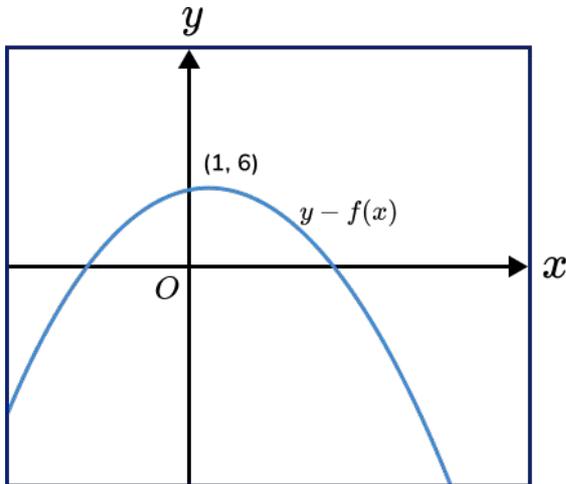


On the grid, sketch the graph of  $y = \cos(x - 90)$  for all values of  $x$  from  $0^\circ$  to  $360^\circ$ .

**(2 marks)**

## GCSE Exam Questions: Transformations of Graphs

2) The graph of  $y = f(x)$  is shown below.



The coordinates of the turning point of this curve are (1 , 6).

Write down the coordinates of the turning point of the curve with equation

(a)  $y = f(x + 3)$

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(1)

(b)  $y = -f(x)$

-----  
(1)

(c)  $y = f(x) - 3$

-----  
(1)

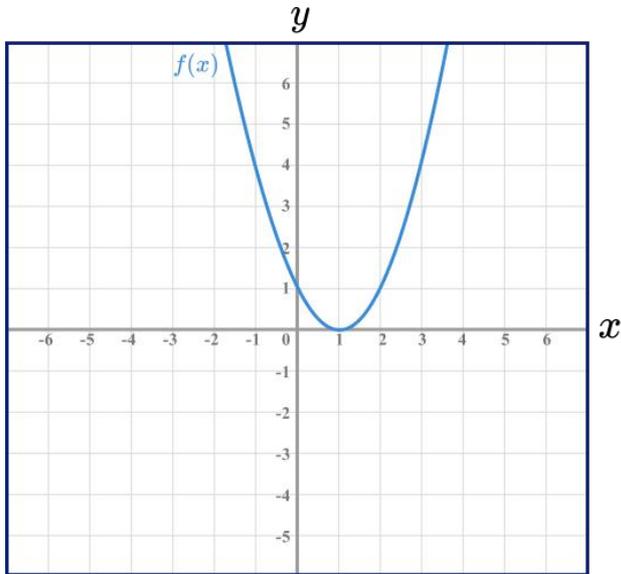
(d)  $y = f(-x)$

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(1)

**(4 marks)**

## GCSE Exam Questions: Transformations of Graphs

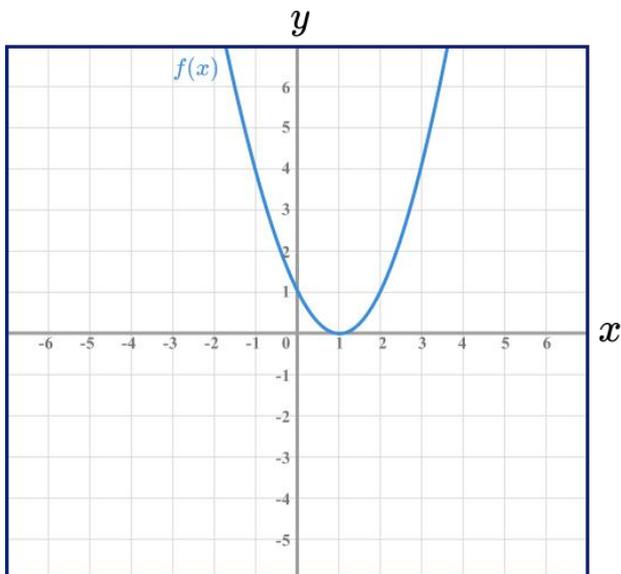
3) The graph of  $y = f(x)$  is shown on both grids below.



(a) On the grid above, sketch the graph of  $y = -f(x)$

(2)

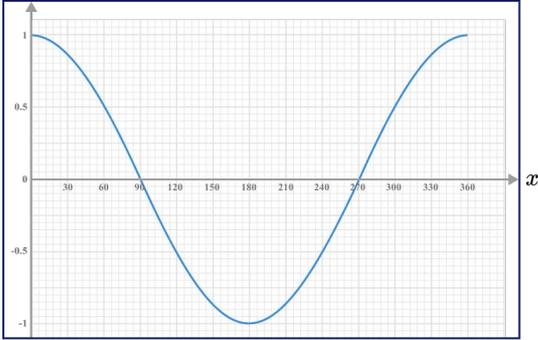
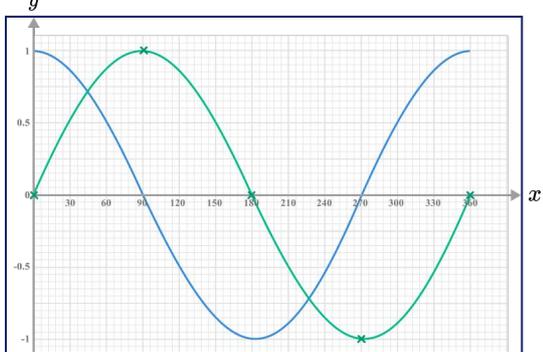
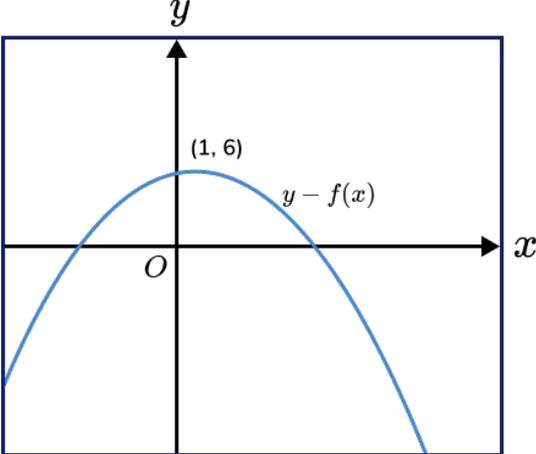
(b) On the grid below, sketch the graph of  $y = f(x + 2)$



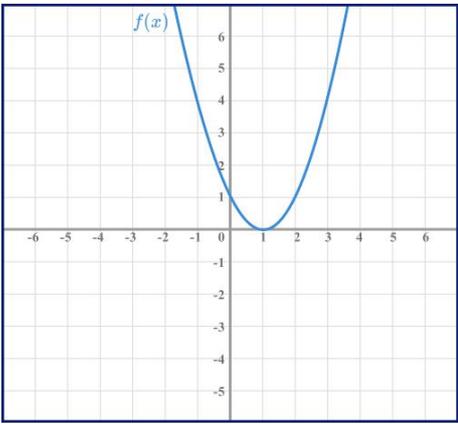
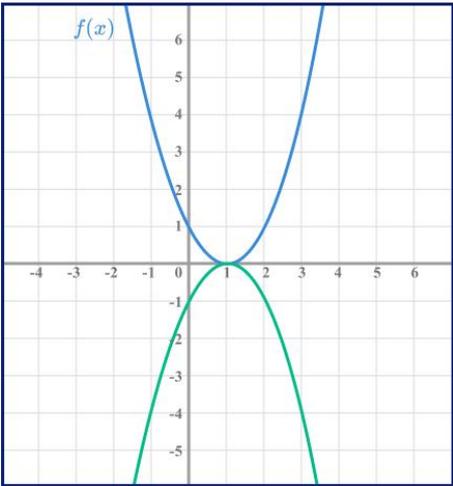
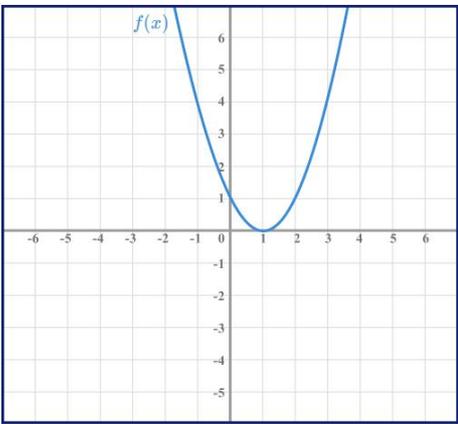
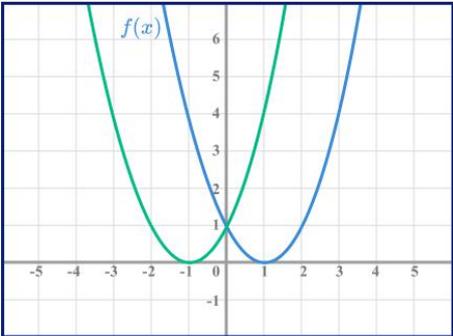
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(2)

(4 marks)

# GCSE Exam Questions: Transformations of Graphs Answers

	Question	Answer	Marks
<b>1)</b>	<p>Shown below is the graph of <math>y = \cos(x)</math></p>  <p>On the grid, sketch the graph of <math>y = \cos(x - 90)</math> for all values of <math>x</math> from <math>0^\circ</math> to <math>360^\circ</math>.</p>	<p>Attempt to translate curve to the right Fully correct transformation</p> 	<p><b>(1)</b> <b>(1)</b></p>
<b>2)</b>	<p>The graph of <math>y = f(x)</math> is shown below.</p>  <p>The coordinates of the turning point of this curve are <math>(1, 6)</math>.</p> <p>Write down the coordinates of the turning point of the curve with equation</p>		
<b>(a)</b>	$y = f(x + 3)$	<b>(a)</b> $(-2, 6)$	<b>(1)</b>
<b>(b)</b>	$y = -f(x)$	<b>(b)</b> $(1, -6)$	<b>(1)</b>
<b>(c)</b>	$y = f(x) - 3$	<b>(c)</b> $(1, 3)$	<b>(1)</b>
<b>(d)</b>	$y = f(-x)$	<b>(d)</b> $(-1, 6)$	<b>(1)</b>

# GCSE Exam Questions: Transformations of Graphs Answers

	Question	Answer	Marks
<p>3)</p> <p>(a)</p>	<p>The graph of <math>y = f(x)</math> is shown on both grids below.</p>  <p>On the grid above, sketch the graph of <math>y = -f(x)</math></p>	<p>(a) Attempt to reflect curve in <math>x</math> axis Fully correct transformation</p> 	<p>(1) (1)</p>
<p>(b)</p>	 <p>On the grid above, sketch the graph of <math>y = f(x + 2)</math></p>	<p>(b) Attempt to translate curve to the left Fully correct transformation</p> 	<p>(1) (1)</p>

# Where to go next?

For more diagnostic questions, and GCSE maths revision resources and worksheets to support students in fixing any misconceptions take a look at the free Third Space Learning [GCSE maths revision](#) pages.

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