2.6 Transformations of Graphs of Functions: 10-minute Pack

Total Marks

EDEXCEL 4MA1 · Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The graph of y = f(x) has a maximum at (-1, 2). Write down the coordinates of the minimum of y = -f(x).

(Total for Question 1 is 1 mark)

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

(Total for Question 2 is 2 marks)

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3 The point P(-6, 1) lies on the curve y = f(x).
Write down the coordinates of the image of P on the curve y = 2f(2x - 2) - 2.

(Total for Question 3 is 3 marks)

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4 The graph of y = f(x) has a point B at (-2, 3). Describe the single transformation that maps y = f(x) onto y = f(x) - 2, and write down the coordinates of the image of B.

(Total for Question 4 is 2 marks)

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Mark scheme · 2.6 Transformations of Graphs of Functions: 10-minute Pack

Question 1

minimum is at (-1, -2) cao	**B1**

Answer: (-1, -2)

Question 2

replacing x by -x changes the sign of every x value	**M1**
Reflection in the y-axis	**A1**

Answer: Reflection in the y-axis

Question 3

identifies the effect of each part of the transformation (the inside of the bracket changes x, the outside changes y)	**M1**
x-coordinate = -2	**B1**
y-coordinate = 0	**B1**

Answer: (-2, 0)

Question 4

description: translate vertically down by 2 units (or shift down 2), oe	**M1**
image coordinates (-2, 1) cao	**A1**

Answer: Translate down 2 units; B maps to (-2, 1)

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