HIGHER

6.7 Inequalities on Graphs: 10-minute Pack

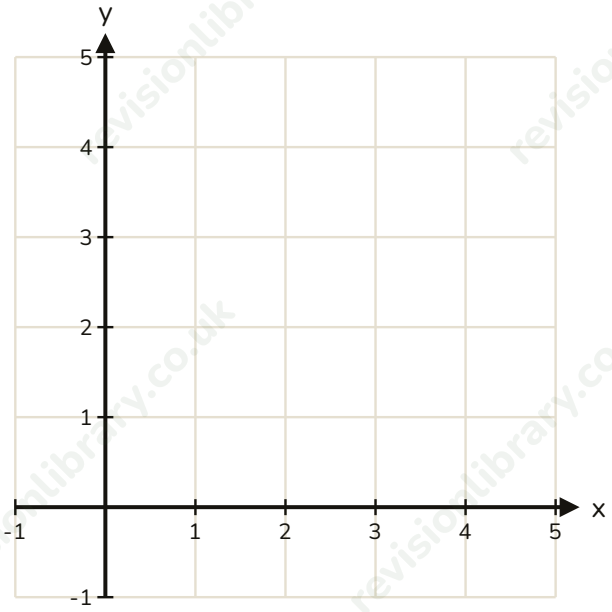
EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 On the axes, draw the boundary line for $2x + y = 4$ and shade the region representing $2x + y \leq 4$. Label the boundary and show whether it is solid or dashed.



(Total for Question 1 is 2 marks)

2 A region is above the solid line $y = x - 2$, below the dashed line $y = 8$, and to the right of the solid line $x = 3$. Write down the three inequalities that define the region.

(Total for Question 2 is 3 marks)

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3 x and y are integers. How many points with integer coordinates satisfy all of the inequalities $x \geq 1$, $y \geq 2$ and $x + y \leq 10$?

(Total for Question 3 is 3 marks)

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Mark scheme · 6.7 Inequalities on Graphs: 10-minute Pack

Question 1

correct boundary line drawn (rearrange to y = -2x + 4) and drawn as a solid line since inequality is ≤ oe	**M1**
region shaded below or on the line (points such as (0,0) satisfy 2*0+0 ≤ 4) cao	**A1**

Answer: Solid line y = -2x + 4 drawn; region below and including the line shaded. Check point (0,0): 0 ≤ 4, so shading below is correct.

Question 2

y ≥ x - 2 with correct inequality sign	**B1**
y < 8 with correct sign	**B1**
x ≥ 3 with correct sign	**B1**

Answer: y ≥ x - 2, y < 8, x ≥ 3

Question 3

draws or considers the three boundary lines	**M1**
counts the points row by row (or column by column)	**M1**
36 cao	**A1**

Answer: 36

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