5.12 Solving Simultaneous Equations Graphically: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Work out the coordinates of the intersection of the lines y = 2x + 1 and y = x + 3.

(Total for Question 1 is 1 mark)

2 Complete the table of values for y = 2x - 1.

x	-2	-1	0	1	2	3
y	__	__	__	1	__	__

(Total for Question 2 is 2 marks)

3 The graphs of y = 2x - 1 and y = -x + 5 are drawn on the same axes. Show how to find the intersection by solving the two equations and give the intersection coordinates.

(Total for Question 3 is 3 marks)

4 Two lines are drawn on a graph: y = 0.5x + 1 and y = 0.5x + 4. Explain whether these lines intersect. Give the reason.

(Total for Question 4 is 2 marks)

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Mark scheme · 5.12 Solving Simultaneous Equations Graphically: 10-minute Pack

Question 1

(2, 5) cao **B1**

Answer: (2, 5)

Question 2

at least 3 of the 5 missing values correct **B1**

all 5 missing values correct (cao) **B1**

Answer: x = -2, -1, 0, 1, 2, 3 gives y = -5, -3, -1, 1, 3, 5

Question 3

equate: 2x - 1 = -x + 5 or equivalent **M1**

solve: 3x = 6 or x = 2 **M1**

(2, 3) cao **A1**

Answer: (2, 3)

Question 4

state: they are parallel so do not intersect **B1**

reason: same gradient 0.5 but different intercepts 1 and 4 oe **B1**

Answer: They do not intersect because both have gradient 0.5 but different y-intercepts, so the lines are parallel.

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