



3.15F Drawing Linear Graphs: Foundation Tier Practice

EDEXCEL Edexcel 1MA1 · Calculator allowed · about 50 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

1 Complete the table for the function $y = 2x + 1$.

(a) Find y when $x = 0$.

(1)

.....

(b) Find y when $x = 1$.

(1)

.....

(c) Find y when $x = 2$.

(1)

.....

(Total for Question 1 is 3 marks)

2 Work out the value of y when $x = 5$ for the line $y = x - 2$.

(Total for Question 2 is 1 mark)

3 Write down the equation of the straight line with gradient 2 that passes through the point (0, 3).

(Total for Question 3 is 1 mark)

4 Find the gradient of the line passing through the points (1, 2) and (3, 6).

(Total for Question 4 is 2 marks)

- 5 Work out the x-intercept of the line $y = -3x + 9$. Give your answer as a number.

(Total for Question 5 is 1 mark)

- 6 A straight line has gradient 1 and passes through the point (2, 5). Write down the equation of this line in the form $y = mx + c$.

(Total for Question 6 is 2 marks)

- 7 A taxi charges cost p pounds given by $p = 2x + 1$, where x is the number of miles. How many miles can you travel for $p = 9$?

(Total for Question 7 is 2 marks)

- 8 Complete the table for the function $y = -x + 4$ for $x = 0, 2$ and 4 .

(a) Find y when $x = 0$. (1)

(b) Find y when $x = 2$. (1)

(c) Find y when $x = 4$. (1)

(Total for Question 8 is 3 marks)

- 9 Find the equation of the line passing through the points (0, 2) and (4, 0). Give your answer in the form $y = mx + c$.

(Total for Question 9 is 3 marks)

10 The line through (1, 1) and (3, 5) is given.

Part (a) Find the equation of this line in the form $y = mx + c$.

Part (b) Hence find the value of x when $y = 9$.

(a) Find the equation of the line.

(2)

(b) Find x when $y = 9$. You may use your answer from part (a).

(2)

(Total for Question 10 is 4 marks)

Mark scheme · 3.15F Drawing Linear Graphs: Foundation Tier Practice

Question 1

- (a) **B1** 1 cao
- (a) **Answer: 1**
- (b) **B1** 3 cao
- (b) **Answer: 3**
- (c) **B1** 5 cao
- (c) **Answer: 5**

Question 2

- **B1** 3 cao
- **Answer: 3**

Question 3

- **B1** $y = 2x + 3$ cao
- **Answer: $y = 2x + 3$**

Question 4

- **M1** correct method: $(6 - 2) / (3 - 1)$ or rise/run
- **A1** 2 cao
- **Answer: 2**

Question 5

- **B1** 3 cao
- **Answer: 3**

Question 6

- **M1** substitute $5 = 1 \cdot 2 + c$ to find c
- **A1** $y = x + 3$ cao
- **Answer: $y = x + 3$**

Question 7

- **M1** substitute $9 = 2x + 1$ and isolate x
- **A1** 4 miles cao
- **Answer: 4 miles**

Question 8

- (a) **B1** 4 cao
- (a) **Answer: 4**
- (b) **B1** 2 cao
- (b) **Answer: 2**
- (c) **B1** 0 cao
- (c) **Answer: 0**

Question 9

- **M1** calculate gradient: $(0 - 2) / (4 - 0) = -1/2$
- **M1** substitute to find c : $2 = -1/2 \cdot 0 + c$ so $c = 2$
- **A1** $y = -1/2 x + 2$ cao
- **Answer: $y = -1/2 x + 2$**

Question 10

- (a) **M1** find gradient: $(5 - 1) / (3 - 1) = 2$
- (a) **A1** $y = 2x - 1$ cao
- (a) **Answer: $y = 2x - 1$**
- (b) **M1** substitute $9 = 2x - 1$ and solve
- (b) **A1** 5 cao
- (b) **Answer: 5**