5.14 Gradient of a Line: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Find the gradient of the line joining the points (2, 5) and (2, 9).

(Total for Question 1 is 1 mark)

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2 Work out the gradient of the line passing through (6, 1) and (2, 5).

(Total for Question 2 is 2 marks)

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3 The line through (3, 7) has gradient -3. Find the equation of the line in the form $y = mx + c$.

(Total for Question 3 is 3 marks)

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4 Calculate the gradient of the line joining the points A(1, 2) and B(5, 10).

(Total for Question 4 is 2 marks)

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Mark scheme · 5.14 Gradient of a Line: 10-minute Pack

Question 1

vertical line has undefined gradient; state 'undefined' or 'no gradient' oe **B1**

Answer:Undefined

(The line is vertical so the gradient is undefined.)

Working check: change in x = 2 - 2 = 0 so gradient = (9 - 5)/0 which is not defined.

Question 2

use (5 - 1)/(2 - 6) = 4/(-4) or equivalent **M1**

-1 cao **A1**

Answer:-1 (gradient = -1)

Working check: change in y = 5 - 1 = 4, change in x = 2 - 6 = -4, gradient = 4/(-4) = -1.

Question 3

use point-slope: y - 7 = -3(x - 3) or substitute y = mx + c form **M1**

correct substitution to find c: 7 = -3*3 + c so c = 16 **M1**

y = -3x + 16 cao **A1**

Answer:y = -3x + 16

Working check: y - 7 = -3(x - 3) => y - 7 = -3x + 9 => y = -3x + 16. Check with point (3,7): 7 = -3*3 + 16 = 7.

Question 4

(10 - 2) / (5 - 1) oe **M1**

2 cao **A1**

Answer: Gradient = 2

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