Marked example 1

Paper 1 style · No calculator

1 8 marks SL 2.1 ●○○ Routine

The points $A(2, 5)$ and $B(6, -3)$ lie on the line L.

(a) Find the gradient of L. **[2]**

(b) Find the equation of L. Give your answer in the form $y = mx + c$. **[2]**

(c) Write down the coordinates of M, the midpoint of $[AB]$. **[1]**

(d) Find the equation of the perpendicular bisector of $[AB]$. Give your answer in the form $ax + by + d = 0$, where $a, b, d \in \mathbb{Z}$. **[3]**

MARKSCHEME (a)

$m = \dfrac{-3-5}{6-2}$ **(M1)**

$= -2$ **A1**

Total 2 marks

MARKSCHEME (b)

$y - 5 = -2(x - 2)$ **(M1)**

$y = -2x + 9$ **A1**

Total 2 marks

MARKSCHEME (c)

$M(4, 1)$ **A1**

Total 1 mark

MARKSCHEME (d)

gradient $\dfrac{1}{2}$ **(A1)**

$y - 1 = \dfrac{1}{2}(x - 4)$ **M1**

$x - 2y - 2 = 0$ **A1**

Total 3 marks

Note The perpendicular bisector passes through M with the perpendicular gradient. Accept any integer multiple. FT from their (a) and (c).

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