Exercise 2

Paper 1 style · No calculator

2 4 marks SL 4.4 · 4.10 ●●○ Typical

For a set of bivariate data, the regression line of y on x is $y = 1.5x - 2$ and $\bar{y} = 13$.

(a) Find $\bar{x}$. **[2]**

(b) Explain why this line should not be used to estimate x when $y = 7$. **[2]**

The markscheme is on the next page: try the question first. Written and verified by a practising IB mathematics teacher, produced with AI assistance; solved twice and recomputed by software. Not affiliated with or endorsed by the International Baccalaureate Organization.
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MARKSCHEME (a)

the line passes through $(\bar{x}, \bar{y})$: $13 = 1.5\bar{x} - 2$ **(M1)**

$\bar{x} = 10$ **A1**

Total 2 marks

MARKSCHEME (b)

to estimate x from y **R1**

use the regression line of x on y **R1**

Total 2 marks

Note Not the line of y on x rearranged.