Marked example 1

Paper 1 style · No calculator

1 5 marks SL 4.1 ●○○ Routine

A school has 600 students: 240 in Year 1 and 360 in Year 2. A sample of 50 students is asked how long they spend on homework each evening.

(a) A stratified sample by year group is used. Find the number of Year 1 students and the number of Year 2 students in the sample. [2]

(b) State whether the time spent on homework is discrete or continuous data. [1]

(c) Another method chooses every 12th student from an alphabetical list, starting at a random position. Name this sampling technique. [1]

(d) Give one reason why asking the first 50 students who arrive at school could give a biased sample. [1]

MARKSCHEME (a)

$\frac{240}{600} \times 50 = 20$ Year 1 — A1

30 Year 2 — A1

Total 2 marks

MARKSCHEME (b)

continuous — A1

Total 1 mark

Note A time is measured, not counted.

MARKSCHEME (c)

systematic sampling — A1

Total 1 mark

MARKSCHEME (d)

early arrivals may differ from the others (they live close, or work more) — R1

Total 1 mark

Note Any reason that names who is over- or under-represented.

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