Exercise 1

Paper 1 style · No calculator

1 5 marks SL 4.1 ●○○ Routine

A sports club has 800 members: 500 adults and 300 juniors. The club asks a sample of 40 members how many times they trained last month.

(a) A stratified sample by age group is used. Find the number of adults and the number of juniors in the sample. [2]

(b) State whether the number of training sessions is discrete or continuous data. [1]

(c) Another method draws 40 names from a hat containing the names of all the members. Name this sampling technique. [1]

(d) Give one reason why asking the 40 members who are in the gym on a Monday evening could give a biased sample. [1]

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)

$\frac{500}{800} \times 40 = 25$ adults — A1

15 juniors — A1

Total 2 marks

MARKSCHEME (b)

discrete — A1

Total 1 mark

Note A number of sessions is counted.

MARKSCHEME (c)

simple random sampling — A1

Total 1 mark

MARKSCHEME (d)

members who train often, or on Mondays, are over-represented — R1

Total 1 mark

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