

- 1** A sixth form college has 72 students in Year 12 and 63 students in Year 13.
The head teacher selects a stratified sample of 30 students, stratified by year group.
Describe how this sample could be taken.

(Total for question 1 is 3 marks)

2 A lake contains five different types of fish.
There are an estimated 350 Roach, 250 Bream, 200 Rudd, 150 Tench and 450 Carp.
John wishes to investigate the health of the fish in the lake.
He decides to take a sample of 120 fish.

- (a) Give a reason why stratified random sampling cannot be used.

(1)

- (b) Explain how a sample of size 120 could be taken to ensure that the estimated populations of each type of fish are fairly represented.

You should state the name of the sampling method used.

(2)

(Total for question 2 is 3 marks)

3 Kwame is studying the time it takes members of his gym to travel to the gym.
He stands by the door of the gym in the morning and asks the first 40 members as they arrive how long their journey was.

(a) State the sampling method Kwame used.

(1)

(b) State and briefly describe an alternative method of non-random sampling Kwame could have used to obtain a sample of 40 members.

(2)

(Total for question 3 is 3 marks)

- 4** Osman has 150 employees. He wants to find out what the employees think about the staff canteen. Explain how Osman can select a sample of 30 employees using systematic sampling.

(Total for question 4 is 3 marks)
