



Mathematics: applications and interpretation

Practice paper 1 SL

Total: 80 marks

1.

[Maximum mark: 5]

A school consists of 740 students divided into 5 grade levels. The numbers of students in each grade are shown in the table below.

Grade	8	9	10	11	12
Number of students	120	125	119	195	181

The Principal of the school wishes to select a sample of 25 students. She wishes to ensure that, as closely as possible, the proportion of the students from each grade in the sample is the same as the proportions in the school.

- (a) Calculate the number of grade 12 students who should be in the sample. [3]

The Principal selects the students for the sample by asking those who took part in a previous survey if they would like to take part in another. She takes the first of those who reply positively, up to the maximum needed for the sample.

- (b) State which two of the sampling methods listed below best describe the method used. [2]

Stratified Quota Convenience Systematic Simple random

2.

[Maximum mark: 5]

A factory produces engraved gold disks. The cost C of the disks is directly proportional to the cube of the radius r of the disk.

A disk with a radius of 0.8 cm costs 375 US dollars (USD).

- (a) Find an equation which links C and r . [3]

- (b) Find, to the nearest USD, the cost of disk that has a radius of 1.1 cm. [2]

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Jianjun Gao



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