Jim, a student in the Applications and Interpretations SL class, decided to do his Internal Assessment exploring statistics. He decided to conduct a survey of his fellow students and asked them how many days a week do they exercise after school. The data is shown in the following table.

Number of days in which the students exercised	0	1	2	3	4	5	6	7
Number of students	9	15	25	20	m	10	12	3

The mean number of days in which the students exercised is 3.

(a) State whether the data is discrete or continuous.   (1 mark)

(b) Find the value of m.

                                                                          (4 marks)

(c) It was not possible for Jim to survey every student in his school. He decided that he would randomly survey an equal number of students in each of the Freshmen, Sophomore, Junior, and Senior classes. Identify the sampling technique used for the surveying of students.

                                                                          (1 mark)

Mark scheme:

(a) Discrete   (A1)

(b) $\dfrac{0+15+50+60+4m+50+72+21}{94+m} = 3$ (M1)(A1)

> **Note:** Award **M1** for substitution into the formula for the mean, award **A1** for a correct equation.

Attempt to solve their equation.   (M1)

$m = 14$ (A1)

(c) Stratified Sampling   (A1)