

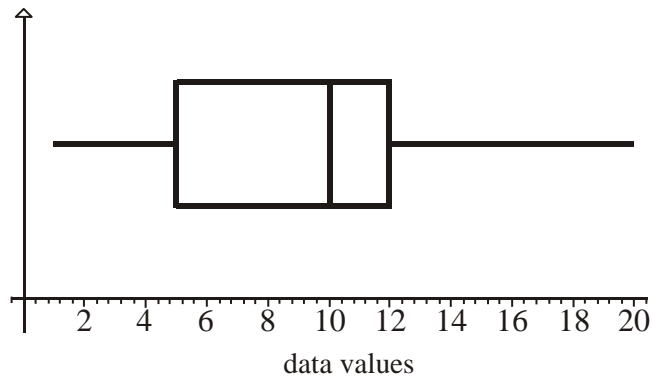
Name \_\_\_\_\_

Date \_\_\_\_\_

**IB Math Studies**  
**Simple Discrete Data**

1. (a) State which of the following sets of data are discrete.
- (i) Speeds of cars travelling along a road.
  - (ii) Numbers of members in families.
  - (iii) Maximum daily temperatures.
  - (iv) Heights of people in a class measured to the nearest cm.
  - (v) Daily intake of protein by members of a sporting team.

The boxplot below shows the statistics for a set of data.



- (b) For this data set write down the value of
- (i) the median;
  - (ii) the upper quartile;
  - (iii) the minimum value present.
- (c) Write down three different integers whose mean is 10.

**(Total 6 marks)**

2. The mean of the ten numbers listed below is 5.5.

4, 3,  $a$ , 8, 7, 3, 9, 5, 8, 3

(a) Find the value of  $a$ .

(b) Find the median of these numbers.

**(Total 4 marks)**

3. The weight in kilograms of 12 students in a class are as follows.

63 76 99 65 63 51 52 95 63 71 65 83

(a) State the mode.

**(1)**

(b) Calculate

(i) the mean weight;

(ii) the standard deviation of the weights.

**(2)**

When one student leaves the class, the mean weight of the remaining 11 students becomes 70 kg.

(c) Find the weight of the student who left.

**(2)**

**(Total 5 marks)**

4. The age in months at which a child first starts to walk is observed for a random group of children from a town in Brazil. The results are

14.3, 11.6, 12.2, 14.0, 20.4, 13.4, 12.9, 11.7, 13.1.

(a) (i) Find the mean of the ages of these children.

(ii) Find the standard deviation of the ages of these children.

(b) Find the median age.

**(Total 6 marks)**

5. In the following ordered data, the mean is 6 and the median is 5.

2,  $b$ , 3,  $a$ , 6, 9, 10, 12

Find each of the following

(a) the value of  $a$ ;

(b) the value of  $b$ .

**(Total 8 marks)**

6. A survey was conducted of the number of bedrooms in 208 randomly chosen houses. The results are shown in the following table.

Number of bedrooms	1	2	3	4	5	6
Number of houses	41	60	52	32	15	8

- (a) State whether the data is discrete or continuous. (1)
- (b) Write down the mean number of bedrooms per house. (2)
- (c) Write down the standard deviation of the number of bedrooms per house. (1)
- (d) Find how many houses have a number of bedrooms greater than one standard deviation above the mean. (2)

**(Total 6 marks)**