

1. 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.

Working:

Answers:

- (a)
(b)

(Total 4 marks)

2. The table shows the number of children in 50 families.

Number of children	Frequency	Cumulative frequency
1	3	3
2	m	22
3	12	34
4	p	q
5	5	48
6	2	50
	T	

- (a) Write down the value of T .
- (b) Find the values of m , p and q .

Working:

Answers:

(a)

(b)

(Total 4 marks)

3. For the set of {8, 4, 2, 10, 2, 5, 9, 12, 2, 6}

(a) calculate the mean;

(b) find the mode;

(c) find the median.

Working:

Answers:

(a)

(b)

(c)

(Total 4 marks)

4. 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 .

Working:

Answers:

- (a)
(b)

(Total 8 marks)

5. The numbers of games played in each set of a tennis tournament were

9, 7, 8, 11, 9, 6, 10, 8, 12, 6, 8, 13, 7, 9, 10, 9, 10, 11,
12, 8, 7, 13, 10, 7, 7.

The raw data has been organized in the frequency table below.

games	frequency
6	2
7	5
8	n
9	4
10	4
11	2
12	2
13	2

- (a) Write down the value of n .
- (b) Calculate the mean number of games played per set.
- (c) What percentage of the sets had more than 10 games?
- (d) What is the modal number of games?

Working:

Answers:

- (a)
- (b)
- (c)
- (d)

(Total 8 marks)

1. (a) $5.5 = \frac{4 + 3 + a + 8 + 7 + 3 + 9 + 5 + 8 + 3}{10}$ (M1)

$$55 = 50 + a$$

$$5 = a$$

(A1) (C2)

- (b) 3, 3, 3, 4, 5, 5, 7, 8, 8, 9
Median = 5

(M1)

(A1) (C2)

Note: Award (M1) for arranging scores in ascending or descending order. Follow through with candidate's a

[4]

2. (a) $T = 50$ (A1)
- (b) $m = 19$ (A1)
- (c) $p = 9$ (A1)
- (d) $q = 43$ (A1)
[4]
3. (a) $\text{Mean} = \frac{60}{10}$
 $= 6$ (A1) (C1)
- (b) $\text{Mode} = 2$ (A1) (C1)
- (c) 2, 2, 2, 4, 5, 6, 8, 9, 10, 12
 \uparrow
 $\text{Median} = \frac{5+6}{2}$ (M1)
 $= 5.5$ (A1) (C2)
[4]

4. (a) $\frac{a+6}{2} = 5$ (M1)(A1)
 $a+6=10$ (A1)
 $a=4$ (A1) (C4)
- (b) $\frac{42+a+b}{8} = 6$ (M1)
 $42+a+b=48$ (A1)
 $a+b=6$ (A1)
 $4+b=6$ (A1)(C4)
 $b=2$ [8]
5. (a) $n=4$ (A2) (C2)
- (b) Mean number of games is 9.08 (accept 9). (M1)(A1)
Note: Award (M1) for indicating a sum of games times frequency (possibly curtailed by dots) or for 227 seen.
- (c) $\frac{6}{25} \times \frac{100}{1} = 24\%$ (M1)(A1)
Note: Award (M1)(A0) if 6 is replaced by 10. No other alternative.
- (d) Modal number of games is 7. (A2) (C2)
[8]