

UNIT 9 Data Analysis

Mental Tests

Mental Test 9.1

1. For the data
 2 1 3 2 4 3 2 6 4
 what is
- (a) the mean (3)
 - (b) the median (3)
 - (c) the mode (2)
 - (d) the range (5)

Note for teachers : display data on the board

2. For the data
 4 6 7 11
 what is
- (a) the median ($6\frac{1}{2}$)
 - (b) the mean (7)

Note for teachers : display data on the board

3. A football team's scoring record for 10 matches is
- | | | | | | | |
|---------------------|---|---|---|---|---|-----------|
| <i>No. of goals</i> | 0 | 1 | 2 | 3 | 4 | 5 or more |
| <i>Frequency</i> | 2 | 1 | 4 | 1 | 2 | 0 |
- What is the mean number of goals per match? (2)

Note for teachers : display data on the board

4. The mean of three numbers is 2. A fourth number, 6, is added.
 What is the new mean value? (3)
5. When the number 5 is added to a set of 3 numbers, the mean value is 6.5.
 What is the mean of the original three numbers? (7)
6. The mean of a set of 4 numbers is 5. When a fifth number is added to the set, the mean increases to 6. What is the value of the fifth number? (10)

Mental Test 9.2

1. For the data
 2 4 1 8 1 9 3

what is

- (a) the mean (4)
- (b) the median (3)
- (c) the mode (1)
- (d) the range (8)

Note for teachers : display data on the board

2. For the data
 13 8 2 1

what is

- (a) the median (5)
- (b) the mean (6)

Note for teachers : display data on the board

3. The number of shots taken by 10 golfers at a particular hole is summarised below

<i>No. of shots</i>	0	1	2	3	4	5	6	7	8 or more
<i>Frequency</i>	0	0	1	2	5	1	0	1	0

What is the mean number of shots taken at this hole? (4)

Note for teachers : display data on the board

- 4. The mean of three numbers is 4. Another number, 8, is added.
 What is the new mean value? (5)
- 5. The mean of a set of 5 numbers is 3. When another number is added, the mean increases to 3.5. What is the number added? (6)
- 6. When the number 2 is added to a set of 5 numbers, the mean value is 4.5.
 What is the mean value of the original set of numbers? (5)

UNIT 9 Data Analysis

Mental Tests

Mental Test 9.3

1. For the data
 2 4 1 8 1 9 3
 what is
- (a) the mean (4)
 - (b) the median (3)
 - (c) the lower quartile (1)
 - (d) the upper quartile (8)
 - (e) the interquartile range (7)

Note for teachers : display data on the board

2. A football team's scoring record for 10 matches is

<i>No. of goals</i>	0	1	2	3	4	5 or more
<i>Frequency</i>	2	1	4	1	2	0

What is the mean number of goals per match? (2)

Note for teachers : display data on the board

3. When the number 5 is added to a set of 3 numbers, the mean value is 6.5.
 What is the mean of the original three numbers? (7)
4. The mean of a set of 4 numbers is 5. When a fifth number is added to the set, the mean increases to 6. What is the value of the fifth number? (10)
5. Which of these data sets has the
- (a) smallest (S₁)
 - (b) largest (S₂)
- standard deviation?

$$S_1 = \{5, 5, 5, 5\}$$

$$S_2 = \{1, 2, 8, 9\}$$

$$S_3 = \{3, 4, 6, 7\}$$

Note for teachers : display data on the board

Mental Test 9.4

1. For the data

3 2 4 3 2 9 5

what is

- (a) the mean (4)
- (b) the median (3)
- (c) the lower quartile (2)
- (d) the upper quartile (5)
- (e) the interquartile range (3)

Note for teachers : display data on the board

2. The number of shots taken by 10 golfers at a particular hole is summarised below

<i>No. of shots</i>	0	1	2	3	4	5	6	7	8 or more
<i>Frequency</i>	0	0	1	2	5	1	0	1	0

What is the mean number of shots taken at this hole? (4)

Note for teachers : display data on the board

3. The mean of a set of 5 numbers is 3. When another number is added, the mean increases to 3.5. What is the number added? (6)
4. When the number 2 is added to a set of 5 numbers, the mean value is 4.5. What is the mean value of the original set of numbers? (5)
5. Which of these data sets has the
- (a) smallest (S_3)
 - (b) largest (S_1)
- standard deviation?

$$S_1 = \{1, 2, 10, 18, 19\}$$

$$S_2 = \{4, 5, 10, 15, 16\}$$

$$S_3 = \{8, 9, 10, 11, 12\}$$

Note for teachers : display data on the board
