EXAM PAPERS PRACTICE

Mean/Median/Mode/Range

Model Answer

Question 1

Tim scores the following marks in 8 tests.

$$7 \quad 8 \quad 8 \quad y \quad 6 \quad 9 \quad 10 \quad 5$$

His mean mark is 7.5 .

[2]

Calculate the value of y.

$$\frac{7+8+8+y+6+9+10+5}{8} = 7.5$$
$$y = 7$$

Question 2

Malcom plays four games of golf.
His four scores have a mean of 75, a mode of 78 and a median of 77.

Work out his four scores. [3]

Command his four scores are A, B, CD.

$$A + B + C + D = 75 \times 4 = 300$$

Most frequent occurrences is 78

So it appears 2 time s at least.

Cominand $A \geq B \geq C \geq D$, So a median of 77, $\quad \frac{B+C}{2} = 77, \, B + C = 154$

$78 \times 2 = 156 > 154$ $\qquad$ So B and C isn't 78 neither.

$B \geq C \geqslant D,$ $\quad$ So $A = 8 = 78,$ $\quad C = 154 - 78 = 76$
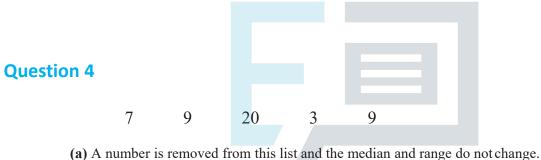$$D = 300 - 78 - 78 - 76 = 68$$

Question 3

Amber's mean mark on five tests is 80.
Her marks on four of these tests are 68, 81, 74 and 89.

Work out her mark on the fifth test.

[2]

Set the mark on the fifth test as x.
$$\frac{68+81+74+89+x}{5} = 80$$
$$x = 88$$

Question 4

| 7 | 9 | 20 | 3 | 9 |

(a) A number is removed from this list and the median and range do not change.

[1]

Write down this number.

The answer is 7 .

(b) An extra number is included in the original list and the mode does not change.

Write down a possible value for this number.

[1]

In the actual list, the mode is clearly 9.

Question 5

Cheryl recorded the midday temperatures in Seoul for one week in January.

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Temperature (°C)	−4	−5	−3	−11	−8	−3	−1

(a) Write down the mode. [1]

Order the temperature values from smallest to largest.

$-11 \quad -8 \quad -5 \quad -4 \quad -3 \quad -3 \quad -1$

There are two minus $3s$ here.

So, the mode is -3 .

(b) On how many days was the temperature lower than the mode? [1]

$-11 < -3 \quad -8 < -3 \quad -5 < -3 \quad -4 < -3.$

So, the answer is 4 days

Question 6

Leon scores the following marks in 5 tests.

$$8 \quad 4 \quad 8 \quad y \quad 9$$

His mean mark is 7.2. [2]

Calculate the value of y.

$$\text{Mean score} = \frac{\text{Sum of Individual score}}{\text{Total Number of scores}}$$

$$7.2 = \frac{8 + 4 + 8 + y + 9}{5}$$

$$7.2 = \frac{29 + y}{5}$$

$$7.2 \times 5 = 29 + y$$

$$36 = 29 + y$$

$$36 - 29 = y$$

$$7 = y$$

$$\text{of} \Rightarrow y = 7$$

Question 7

In Vienna, the mid-day temperatures, in °C, are recorded during a week in December. This information is shown below.

$$-2 \quad 2 \quad 1 \quad -3 \quad -1 \quad -2 \quad 0$$

Calculate

(a) the difference between the highest temperature and the lowest temperature,   [1]

$5°C$

(b) the mean temperature.   [2]

$$-\frac{5}{7} = c$$

Question 8

During one week in April, in Quebec, the daily minimum temperatures were

  –5°C,   –1°C,   3°C,   2°C,   –2°C,   0°C,   6°C.

Write down

(a) the lowest of these temperatures,

$-5°C.$ [1]

(b) the range of these temperatures.

Temperatures in Quebec ranged from $-5°C$ to $6°C.$ [1]

Question 9

For the numbers   8, 3, 5, 8, 7, 8   find

(a)   the mode, [1]

The mode is 8

(b)   the median, [1]

The median of the numbers is 8.

(c)   the mean. [1]

The mean of the numbers 8, 3, 5, 8, 7, 8 is 8.3.