PEARSON EDEXCEL INTERNATIONAL GCSE MATHEMATICS A (4MA1) · HIGHER TIER

Mean, Median and Mode: exam questions

10 questions · 26 marks · mark schemes at the end

Name _____ Date _____ Score / 26

- Calculators are allowed on both 4MA1 Higher papers (1H and 2H). Show your working: most marks are for method.
- Mark schemes start after the questions. M marks are for a correct method, A marks for an accurate answer that follows a correct method, and B marks for a correct result on its own.
- Online, with more practice: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/mean-median-and-mode

1. **2 marks**

Work out the mean of 4, 7, 9, 12 and 13.

2. **3 marks**

The table gives the numbers of goals scored by a team in 20 matches.

Goals	0	1	2	3
Frequency	5	8	4	3

Work out the mean number of goals per match.

3. **4 marks**

The table shows the times, t minutes, that 20 students took to finish a puzzle.

Time (t minutes)	Frequency
$0 < t \leqslant 10$	4
$10 < t \leqslant 20$	9
$20 < t \leqslant 30$	5
$30 < t \leqslant 40$	2

Work out an estimate for the mean time.

4. **3 marks**

The mean mark of 12 boys in a test is 64. The mean mark of 18 girls in the same test is 70.

Work out the mean mark of all 30 students.

5. **2 marks**

The mean of five numbers is 8. Four of the numbers are 6, 9, 11 and 3.

Work out the fifth number.

6. **3 marks**

Here are eleven numbers in order.

3 5 6 8 9 11 14 15 18 20 22

(a) Write down the median. **(1)**

(b) Work out the interquartile range. **(2)**

7. **2 marks**

Here are seven numbers.

4 7 7 2 9 7 3

Write down (a) the mode and (b) the range.

(a) Mode **(1)**

(b) Range **(1)**

8. **2 marks**

The mean of eight numbers is 15. The number 22 is removed.

Work out the mean of the remaining seven numbers.

9. **2 marks**

The table gives the shoe sizes of 25 people.

Shoe size	4	5	6	7
Frequency	3	7	9	6

Find the median shoe size.

10. **3 marks**

The four numbers x, $x + 2$, $2x$ and $3x - 1$ have a mean of 9.

Work out the value of x.

Answers and worked solutions

Question 1 — 2 marks

M1 $\dfrac{4+7+9+12+13}{5}$

A1 9

Answer: 9

Question 2 — 3 marks

M1 $0\times5+1\times8+2\times4+3\times3=25$

M1 $25\div20$

A1 1.25

Answer: 1.25

Question 3 — 4 marks

M1 midpoints 5, 15, 25, 35

M1 $4\times5+9\times15+5\times25+2\times35=350$

M1 $350\div20$

A1 17.5 minutes

Answer: 17.5 minutes

Question 4 — 3 marks

M1 $12\times64=768$ or $18\times70=1260$

M1 $\dfrac{768+1260}{30}$

A1 67.6

Answer: 67.6

Question 5 — 2 marks

M1 $5\times8-(6+9+11+3)$

A1 11

Answer: 11

Question 6 — 3 marks

(a)

B1 11

(b)

M1 lower quartile 6 (3rd value) or upper quartile 18 (9th value)

A1 12

Answer: (a) 11; (b) 12

Question 7 — 2 marks

(a)

B1 7

(b)

B1 7

Answer: (a) 7; (b) 7

Question 8 — 2 marks

M1 $\dfrac{8\times15-22}{7}$

A1 14

Answer: 14

Question 9 — 2 marks

M1 the 13th value, with running totals 3, 10, 19

A1 6

Answer: 6

Question 10 — 3 marks

M1 $x+x+2+2x+3x-1=36$

M1 $7x+1=36$

A1 $x=5$

Answer: $x=5$

Online, with every solution: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/mean-median-and-mode
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