Year 8 mean, median and mode worksheet

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Name: _____ Date: _____

Question 1

The numbers of laps swum by seven swimmers at training were:

15, 8, 11, 21, 6, 11, 12

(a) Find the mean.

(b) Find the median.

Answer: _____

Question 2

Noah's marks on four maths tests were 72, 85, 69 and 81.

(a) Find the mean of his four marks.

(b) What mark does he need on a fifth test so that the mean of all five marks is 78?

Answer: _____

Question 3

These steps for finding the mean of a list of numbers have been mixed up.

A: Divide the total by how many numbers there are.

B: Add all the numbers together to get the total.

C: Count how many numbers there are.

D: Write down the answer.

Write the letters in a correct order.

Answer: _____

Question 4

The overnight minimum temperatures in a country town over five nights were:

Night	Mon	Tue	Wed	Thu	Fri
Minimum (°C)	-4	-1	2	-6	-1

Find the mean (average) minimum temperature.

Answer: _____

Question 5

A teacher asks every student in her class of 25 how many siblings they have. The results are shown in the table.

Number of siblings	**0**	**1**	**2**	**3**	**4**
Number of students	4	10	7	3	1

(a) If the population is the teacher's class, is this a census or a sample? Explain.

(b) Find the mean number of siblings for the class.

Answer: _____

Question 6

Ten students were chosen at random and asked how many pets they have. Their answers were:

0, 2, 1, 3, 1, 0, 1, 4, 2, 1

Find the mean, median, mode and range.

Answer: _____

Question 7

A student finds this table of a town's average monthly rainfall, in millimetres, on a weather website.

Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Rainfall (mm)	40	35	50	55	70	80	85	80	65	60	55	45

(a) Is this primary or secondary data?

(b) Find the range.

(c) Find the median monthly rainfall.

(d) Find the mean monthly rainfall.

Answer: _____

Question 8

A random sample of 20 games was chosen from a soccer league's season. The number of goals scored in each game is shown in the table.

Goals in the game	0	1	2	3	4
Number of games	3	6	5	4	2

Find:

(a) the mode

(b) the median

(c) the mean

Answer: _____

Question 9

A random sample of 9 students recorded how much they earned from part-time work last week:

$60, $75, $80, $80, $90, $95, $100, $110, $480

(a) Find the mean and the median.

(b) Which measure, the mean or the median, better describes a typical amount in this sample? Explain.

Answer: _____

Question 10

A health website states that the mean height of 13-year-olds is about 158 cm. Jess measures the heights of a random sample of 8 students in her year level:

150, 162, 155, 160, 158, 149, 165, 157

(a) Is the website's figure primary or secondary data? Is Jess's data primary or secondary?

(b) Find the mean height of Jess's sample.

(c) Find the range of Jess's sample.

Answer: _____

Year 8 mean, median and mode: answers and worked solutions

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Question 1

Key idea: The mean is the total divided by the count; the median is the middle value once the data are in order.

1. (a) Total: 15 + 8 + 11 + 21 + 6 + 11 + 12 = 84, so the mean is 84 ÷ 7 = 12. 2. (b) In order: 6, 8, 11, 11, 12, 15, 21. The middle (4th) value is 11.

Answer: (a) 12 (b) 11

Question 2

Key idea: Mean = total ÷ number of values, so the total needed is the mean multiplied by the number of values.

1. (a) 72 + 85 + 69 + 81 = 307, and 307 ÷ 4 = 76.75. 2. (b) For a mean of 78 over 5 tests, the total must be 5 × 78 = 390. 3. He needs 390 - 307 = 83.

Answer: (a) 76.75 (b) 83

Question 3

Answer: B, C, A, D (C, B, A, D is also correct, since counting can happen before adding)

Question 4

Answer: -2°C (total -10, divided by 5)

Question 5

Answer: (a) A census, because every member of the population (every student in the class) was asked. (b) 1.48 (37/25)

Question 6

Answer: Mean 1.5 (15 ÷ 10), median 1, mode 1, range 4

Question 7

Answer: (a) Secondary (b) 50 mm (85 - 35) (c) 57.5 mm ((55 + 60)/(2)) (d) 60 mm (720 ÷ 12)

Question 8

Answer: (a) 1 goal (b) 2 goals (10th and 11th values are both 2) (c) 1.8 goals (36 ÷ 20)

Question 9

Answer: (a) Mean $130 (1170 ÷ 9), median $90 (b) The median, because the outlier of $480 pulls the mean up so that it is higher than 8 of the 9 amounts.

Question 10

Answer: (a) The website's figure is secondary data; Jess's data is primary data. (b) 157 cm (1256 ÷ 8) (c) 16 cm (165 - 149)