Topic Check In - 12.03 Analysing data

1. What is the mode of this data set?

   2   6   3   10   7   1   3   8

2. What is the range of the data set?

3. A teacher wants to compare his students' scores on an English test with the same students' scores on a maths test. What sort of graph should he use?

4. In the set of data below, which value could be an outlier?

    1   3   7   1   2   1

5. An experiment was conducted in which a group of students took a maths test following different amounts of sleep. The results are displayed on the graph below.
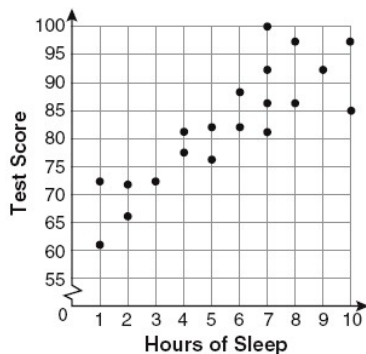
    Does the graph suggest that there is a correlation between hours of sleep and test scores?
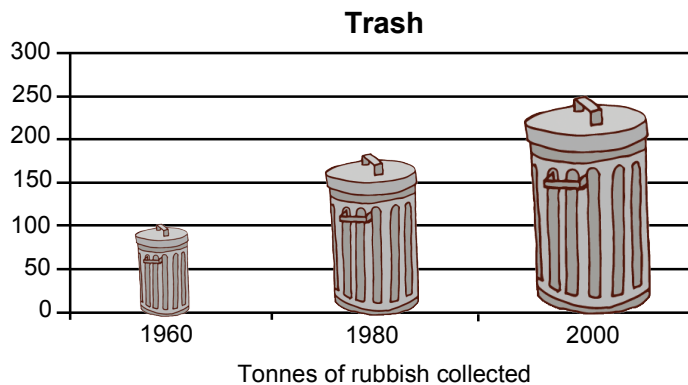
6. Using the graph in question 5, find how many students scored over 90 on the test.

7. Bob says, "From the table, I can tell that the median of the data is in the 7-9 class interval".

Class interval	Frequency
1-3	4
4-6	6
7-9	1
10-12	4
13-15	2

    Explain why he is incorrect.

8. In what way is this graph misleading?

Trash

Tonnes of rubbish collected

9. Write down a set of five numbers which have a mode of 5, a median of 5, a mean of 5, and a range of 5.

10. The mean age of four students is 13. If the teacher's age is included the mean of all five people is 17.

   How old is the teacher?

Extension

I found some old matchboxes in a cupboard and counted the numbers of matches in each.

The median, mode and mean number of matches in the boxes were respectively 3, 4 and 5.

What is the smallest number of matchboxes I could have found?

Answers

1. 3

2. 9

3. Scatter graph

4. 7

5. Yes (positive)

6. 5

7. He has chosen the middle class (7-9). He should have found the total frequency (17) and looked for the class in which the middle value (9th) would lie (4-6).

8. The pictures make it look as though the amount of rubbish increased much more than it actually did because both the width and height have changed on the chart.

9. For example, 2, 5, 5, 6, 7 oe

10. 33

Extension

6 boxes containing, for example, 0, 1, 2, 4, 4, 19 matches.

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GCSE (9–1) MATHEMATICS

Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Find the mode.			
AO1	2	Find the range.			
AO1	3	Use of scatter graphs for bivariate data.			
AO1	4	Outliers.			
AO1	5	Understand correlation.			
AO2	6	Use scatter graphs.			
AO2	7	Find the median from a table.			
AO2	8	Misrepresentation of data.			
AO3	9	Averages.			
AO3	10	Calculate with mean.			

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