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National 5 Mathematics

Exam Questions by Topic

Statistics

Step-by-step worked solutions to these questions in the N5 Maths Study Pack

2015 N5 Past Paper P1, Q5

1. The standard devotion 0f 1, 2, 2, 2, 8 is equal to $\sqrt{a}$

Find the value of a (3 marks)

2015 N5 Past Paper P1, Q10

2. Ten couples took part in a dance competition.

The couples were given a score in each round.

The scores in the first round were

16 27 12 18 26 21 27 22 18 17

(a) Calculate the median and semi-interquartile range of these scores.

(3 marks)

(b) In the second round, the median was 26 and the semi-interquartile range was 2·5.

Make two valid comparisons between the scores in the first and second rounds. (2 marks)

2014 N5 Past Paper P2, Q4

3. A runner has recorded her times, in seconds, for six different laps of a running track.

55 57 58 60 55 56

(a) (i) Calculate the mean of these track times.

Show clearly all your working (1 mark)

(ii) Calculate the standard deviation of these lap times.

Show clearly all your working (3 marks)

(b) She changes her training routine hoping to improve her consistency.

After this change, she records her times for another six laps.

The mean is 55 seconds and the standard deviation 3.2 seconds.

Has the new training routine improved her consistency?

Give a reason for your answer. (1 mark)

2013 N5 Specimen Paper P2, Q8

4. A frozen food company uses machines to pack sprouts into bags.

A sample of six bags is taken from Machine A and the number of sprouts in each back is counted.

The results are shown below.

23 19 21 20 19 24

(a) Calculate the mean and standard deviation of this sample. (3 marks)

(b) Another sample of six bags is taken from Machine B.

This sample has a mean of 19 and a standard deviation of 2.3.

Write down two valid comparisons between the samples. (2 marks)

2013 N5 Practice Paper B, P1, Q10

5. A sample of students was asked how many times each had visited the cinema in the last three months,

The results are shown below.

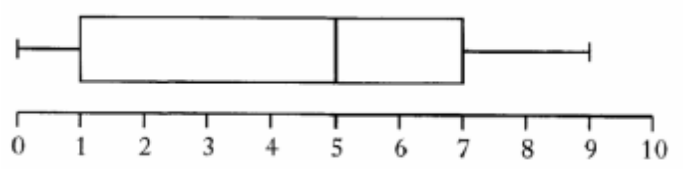
4	5	4	1	4	3	2	2	4	6	2
3	4	4	1	3	1	2	3	1	1	

(a) From the above data, find the median, the lower quartile and the upper quartile. (3 marks)

(b) Construct a box plot for the data. (2 marks)

(c) The same sample of students was asked how many times each had attended a football match in the same three months.

The boxplot below was drawn for the data.



Compare the two boxplots and comment. (1 mark)