① Some of the people visiting a historic site in Wales signed the visitors' book and left their addresses. The table below shows the frequency distribution of the country of origin of this group of visitors.

Country of origin	Number of visitors
Wales	92
England	64
Scotland	22
Ireland	30
France	12

(a) Advertising material is to be sent to some visitors. A random sample of size 20 stratified on the basis of country of origin is to be selected from the above group of visitors for this purpose. Find the number of people from each of the five countries that should be selected for the sample.

[5]

(b) Use the following extract from a table of random digits to show how you would select 8 persons from a list of the 92 visitors from Wales for the sample. Explain your method.

| 34 | 45 | 98 | 78 | 13 | 45 | 03 | 65 | 72 | 39 | 92 |
| 57 | 06 | 34 | 39 | 08 | 99 | 62 | 29 | 81 | 47 | 11 |

[3]

Turn over.

② Calculate the mean and standard deviation of the following set of 12 numbers.

34, 23, 35, 64, 56, 52, 48, 32, 40, 57, 36, 45

[3]

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(3) The table shows the details of the departments in a computer company.

Department	Number of people employed
Management	36
Sales staff	182
Software technicians	62
Hardware engineers	48
Administration assistants	30

A stratified random sample of the people employed is to be selected to form a committee. Calculate the number of people from each department who should be selected to form a committee of size 20.

Complete the table below.

Department	Number of people on the committee
Management	
Sales staff	
Software technicians	
Hardware engineers	
Administration assistants	

[4]

(4) (a) The English test marks scored by 10 pupils in a test were as follows:

26   34   56   86   24   72   63   56   82   48

Calculate the mean and standard deviation of the 10 test marks.

[3]

(b) Marks are added for spelling, punctuation and grammar. In this case two marks were added to each pupil's test mark. State the new mean and standard deviation for the test results. Give a reason for your answer.

[3]

Turn over.