

National 5 Lifeskills Non-Calculator Revision

1.

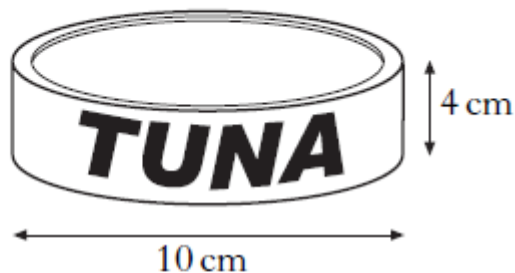
The table below shows the results of a survey of First Year pupils.

	<i>Wearing a blazer</i>	<i>Not wearing a blazer</i>
<i>Boys</i>	40	22
<i>Girls</i>	29	9

What is the probability that a pupil, chosen at random from this sample, will be a girl wearing a blazer?

2.

A tin of tuna is in the shape of a cylinder.



It has diameter 10 centimetres and height 4 centimetres.

Calculate its volume.

Take $\pi = 3.14$.

3.

(a) Show that the standard deviation of 1, 1, 1, 2 and 5 is equal to $\sqrt{3}$.

(b) **Write down** the standard deviation of 101, 101, 101, 102 and 105.

4.

The stem and leaf diagram shows the number of points gained by the football teams in the Premiership League in a season.

3		3	3	3	9		
4		1	4	5	5	7	8
5		0	2	3	3	6	6
6		0					
7		5	9				
8							
9		0					

$n = 20$

4 | 1 represents 41 points

- (a) Arsenal finished 1st in the Premiership with 90 points.
In what position did Southampton finish if they gained 47 points?
- (b) What is the probability that a team chosen at random scored less than 44 points?

5.

- (a) The marks of a group of students in their October test are listed below.

41 56 68 59 43 37 70 58 61 47 75 66

Calculate:

- (i) the median;
(ii) the semi-interquartile range.
- (b) The teacher arranges extra homework classes for the students before the next test in December.
In this test, the median is 67 and the semi-interquartile range is 7.
Make **two** appropriate comments comparing the marks in the October and December tests.

6.

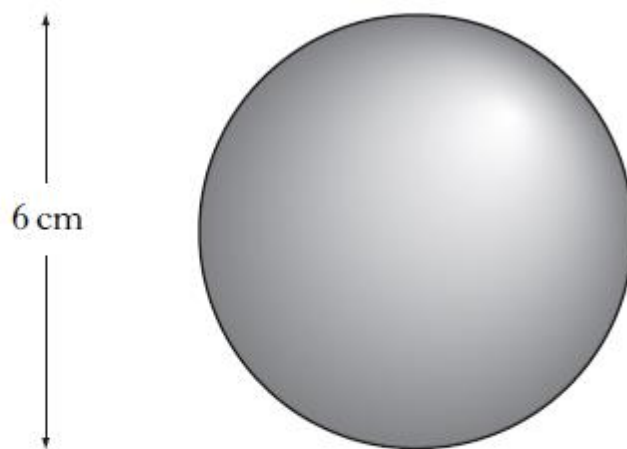
The pupils in a primary class record their shoe sizes as shown below.

8	7	6	5	6
5	7	11	7	7
7	8	7	9	6
8	6	5	9	7

- (a) Construct a frequency table from the above data and add a cumulative frequency column.
- (b) For this data, find:
- (i) the median;
 - (ii) the lower quartile;
 - (iii) the upper quartile.
- (c) Construct a boxplot for this data.

7.

The diagram below represents a sphere.



The sphere has a diameter of 6 centimetres.

Calculate its volume.

Take $\pi = 3.14$.

8.

The table below shows the monthly repayments to be made when money is borrowed from the Bank of Caledonia.

Repayments can be made with or without loan protection.

Monthly repayments: Bank of Caledonia						
	24 months		36 months		48 months	
Loan Amount	With Loan Protection	Without Loan Protection	With Loan Protection	Without Loan Protection	With Loan Protection	Without Loan Protection
£10 000	£495	£445	£343	£305	£277	£237
£8000	£395	£356	£275	£244	£222	£190
£5000	£247	£223	£172	£153	£139	£119
£4000	£198	£179	£138	£123	£111	£95

Jeremy borrows £8000 over 36 months **without** loan protection.

After 28 months, he is made redundant and is unable to pay the remainder of the loan.

His brother, Peter, agrees to make the remaining payments.

How much does Peter pay in total?

9.

Sandi takes the bus to work each day.

Over a two week period, she records the number of minutes the bus is late each day. The results are shown below.

5 6 15 0 6 11 2 9 8 7

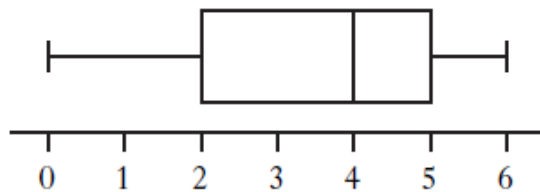
(a) From the above data, find:

- (i) the median;
- (ii) the lower quartile;
- (iii) the upper quartile.

(b) Construct a boxplot for the data.

Sandi decides to take the train over the next two week period and records the number of minutes the train is late each day.

The boxplot, drawn below, was constructed for the new data.



(c) Compare the two boxplots and comment.

10.

Below is the summary part of Geetha's Credit Card statement at the end of May.

<h1>Briggs Bank</h1>	
CREDIT CARD STATEMENT	
Summary as at 21 May 2011	
Credit Limit	£4000
Available Credit	£3760
Balance from previous statement	£0.00
New Transactions	£240.00
Interest	£0.00
Balance owed	£240.00
Minimum payment due	£7.20
Payment due date	15 June 2011
Interest will be charged at 1% per month on any outstanding balance.	

Geetha pays the minimum payment.

She does not use the credit card again.

What is the "Balance owed" in her next statement?

11.

One weekend, the attendances at five Premier League football matches were recorded.

8 900 12 700 59 200 10 300 9 700

The median attendance is 10 300.

- (a) Calculate the mean attendance.
- (b) Which of the two “averages” – the mean or the median – is more representative of the data?

You must explain your answer.

12.

The National Debt of the United Kingdom was recently calculated as

£1 157 818 887 139.

Round this amount to four significant figures.

13.

A copy of Logan Pollock’s payslip is shown below for one week in February.

Name L. Pollock	Employee No. 027	Tax Code 64L	Week Ending 14/02/2012
Basic Pay £296.00	Overtime Pay £55.50	Bonus —	Gross Pay £351.50
National Insurance £20.04	Income Tax £45.40	Pension £21.09	Deductions £86.53
			Net Pay £264.97

Logan worked 40 hours for his basic pay.

If overtime was paid at the rate of “time and a half”, calculate how many hours of overtime he worked during that week.

15.

At a ski resort the temperature, in degrees Celsius, was recorded each day at noon for the first fortnight in February 2013.

0 -1 2 -5 4 2 -3 1 -4 8 -6 4 -2 1

(a) Calculate:

(i) the median temperature;

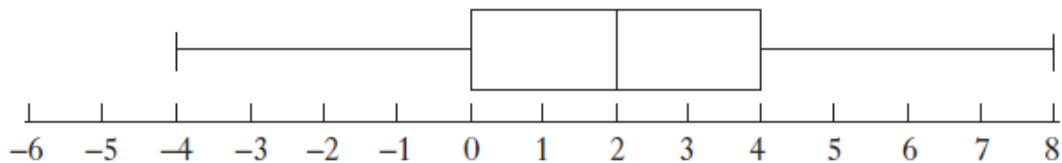
(ii) the lower quartile;

(iii) the upper quartile.

(b) Use the above data to construct a boxplot.

(c) The temperature, in degrees Celsius, was recorded at the same ski resort each day at noon for the first fortnight in February 2014.

The following boxplot was constructed.



Compare the two boxplots and comment.

16.

Below is a copy of Marta Ronaldo's credit card statement.

Western Bank Finance		
Name: Marta Ronaldo	Account No 1950 2114	
Date: 18th May 2014	Credit limit: £1500	
	Interest rate: 2% per month	
<i>Please ensure your payment arrives by 30th May 2014</i>		
18 April 2014	Balance brought forward	370.58
24 April 2014	Payment – <i>Thank you</i>	<u>– 50.00</u>
		320.58
	Interest (at 2%)	6.41
6 May 2014	Mi Esposa Gowns	440.00
10 May 2014	Las Tapas Deliciosas	52.60
12 May 2014	Briggs Service Station	<u>35.01</u>
	Balance owed	854.60
<i>Minimum payment: 5% of balance owed or £20, whichever is greater.</i>		
<i>Note: Interest is charged each month on outstanding balance after payment is deducted.</i>		

Marta makes the minimum payment.

How much is the minimum payment?