**The Brown family case study**

Mr and Mrs Brown have four children (aged 2, 9, 13 and 17 years old). Their 9 year old son is disabled and the family receive a disability allowance. Their net income is shown below:

|  |  |
| --- | --- |
| Mrs Brown | £17 897 per annum |
| Mr Brown | £16 231 per annum |

|  |  |
| --- | --- |
| **Benefit income** | **Amount** |
| Disability Living Allowance for Children | £63∙30 per month |
| Child benefit for four children | £92∙23 per month for the eldest child and  £68∙76 per month for every other child |

The table below shows the Brown family expenditure each month.

|  |  |
| --- | --- |
| **Outgoings** | **Amount** |
| Mortgage | £620 |
| Gas/electricity | £125 |
| Council tax | £112 |
| TV/phone/internet | £67 |
| Car loan | £190 |
| Insurance | £86 |
| Food | £450 |
| Petrol | £223 |
| Savings | £150 |

1 Use the information on the previous page to complete the following   
budget planner for the Brown family.

(a) Cameron family monthly budget planner:

|  |  |
| --- | --- |
| **Income per month** | **Amount** |
| Mrs Brown’s income |  |
| Mr Brown’s income |  |
| Disability Living Allowance for Children |  |
| Child benefit |  |
| **Total income** |  |

|  |  |
| --- | --- |
| **Regular expenditure per month** | **Amount** |
| Mortgage | £620 |
| Gas/electricity | £125 |
| Council tax | £112 |
| TV/phone/internet | £67 |
| Car loan | £190 |
| Insurance | £86 |
| Food | £450 |
| Petrol | £223 |
| Savings | £150 |
| **Total expenditure** |  |

(b) Complete the correct statement below to state whether the family had a surplus or deficit at the end of the month.

2 Mr and Mrs Brown want to put £4600 into a savings account for 1 year. They have investigated bank interest rates and found the following information:

(a) Calculate the interest on the money for each bank

|  |  |  |
| --- | --- | --- |
| **Bank** | **Interest rates** | **Interest paid** |
| Inverbank | 1∙80%  Plus a 0·42% bonus \*  Taxed at 15% |  |
| Taybank | 3∙10%  Taxed at 15% |  |
| Pullbank  ISA | 2∙60%  Tax free |  |

\* The bonus is only paid if the money is left for the whole year with no withdrawals.

\*\*Tax is calculated on the TOTAL interest for the year (including any bonus’s)

(b) Advise Mr and Mrs Brown which bank they should choose to invest their money.   
Use your calculations to justify your advice.

3 The Brown’s want to buy an ipad and don’t know whether if they are better to wait and buy it when they go on Holiday to America or buy it from their Spanish cousin who is offering them one he bought and hasn’t used. The prices of the ipad are given below:

Ipad in USA $ 549∙99 (plus1·5% duty\*)

Ipad from Spanish Cousin € 343∙28

\* Duty is added once converted to GBP

The currency exchange rates are as follows:

|  |
| --- |
| GBP to EUR € is 1∙2723  GBP to USD $ is 1∙536 |

Using your calculations recommend which option the Brown’s should take?

4 Mr and Mrs Cameron want to buy another car for £10 000. To pay for the car, they need to borrow £9000.

They are offered 3 different repayment options at a fixed simple interest rate of 9% per annum:

|  |  |  |
| --- | --- | --- |
|  | **Loan term** | **Monthly repayment** |
| Option 1 | 12 months |  |
| Option 2 | 24 months |  |
| Option 3 | 36 months |  |

(a) Calculate the monthly repayments for each of the three   
loan options.

(b) They decide that they want to pay back the loan over 36 months and that they don’t want a repayment of more than £310 per month.

To reduce the monthly payments, they decide to pay a deposit towards the price of the car.

How much do they need to pay as a deposit? Use your calculations to justify your answer.

5. The Brown Family decide to research other tablet alternatives to an iPad in stores.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Shop  cost (£) | 260 | 340 | 250 | 260 | 270 | 310 | 249 |

Using the data above:

(a) Make a five-figure summary for this data set and use it to   
draw a box plot.

(b) Calculate the mean and standard deviation for the shop   
costs.

(c) The family researched the same 7 tablet alternatives online. They had a mean price mean of £232 and a standard deviation of £20∙75.

Make two comments comparing the costs of the other tablet alternatives on the internet and in the shops.