

Index and Chain Index

Q1 The table below shows the crop area for wheat, in hectares, in Northern Ireland from 2016 to 2020 in June each year.

The associated chain base index numbers are shown.

The base year is 2015

Year	2016	2017	2018	2019	2020
Crop area for wheat	8616	8730	6845	8104	7132
Chain base index number	108.0	101.3	78.4	118.4	

(a) Calculate the crop area in hectares for wheat in Northern Ireland in 2015

Show your working and give your answer to the nearest whole number.

Answer _____ hectares [3]

(b) Calculate the chain base index number for the crop area for wheat in Northern Ireland in 2020

Show your working.

Answer _____ [2]

(c) Give an interpretation of your answer to part (b).

[3]

The table gives the chain base index number for the average price of houses in the United Kingdom in January for each of the years 2016 to 2019

Q2

Year	January 2015	January 2016	January 2017	January 2018	January 2019
Chain base index numbers		107.76	104.76	104.32	101.73

(Source: *landregistry.data.gov.uk*)

- (a) Describe what the chain base index numbers show about the average price of houses in January for the years 2016 to 2019

.....

.....

(2)

In January 2017, the average price of houses in the United Kingdom was £215 243

- (b) Calculate the average price of houses in the United Kingdom in January 2016
Give your answer correct to the nearest £

£

(2)

Q3

Changes in the cost of living in the United Kingdom are measured by the consumer price index (CPI).

The table shows the index numbers for June 2019, using 2015 as base year, of the items that contribute to the CPI.

The table also shows the weightings for how the spending by the Jones family is divided between these items.

Item	Index number	Jones family weighting	
Food, alcohol and tobacco	106.4	17	
Clothing and footwear	102.0	8	
Housing and services	107.5	32	
Transport	112.5	6	
Communication, recreation and leisure	108.9	25	
Health, education and miscellaneous	106.6	12	

(Source: *Office for National Statistics*)

Using 2015 as base year, the CPI for June 2019 was 107.9

Compare the overall change in the cost of living for the Jones family between 2015 and June 2019 with the change in the CPI between 2015 and June 2019

Explain whether or not it is possible to conclude from your calculations that the Jones family is financially better off or worse off in June 2019 as compared with 2015

Q4

Taking 2013 as the base year, Barry calculated index numbers for the number of visitors to Derry's Walls. His results were:

90.0 100 101.9 98.1 92.7

Barry has written these down in the wrong order.

(d) Complete the table below using Barry's values.

Year	2013	2014	2015	2016	2017
No. of visitors (thousands)	411	370	381	403	419
Index number					

[3]

The partially completed table below shows the mean children's admission price and chain base index number for some tourist attractions in Northern Ireland.

Q5

Year	2013	2014	2015	2016	2017
Mean price	£2.54	£2.88	£3.89		£3.78
Chain base index number	100	113.4		106.4	91.3

The chain base index number for 2014 is 113.4

(a) Give an interpretation of this number.

[2]

(b) Calculate the mean price for 2016

Answer £ _____ [2]

(c) Calculate the chain base index number for 2015

Answer _____ [2]

(d) Give one reason for using chain base index numbers instead of simple index numbers.

[1]