## Year 9 SAT Revision

## Percentage Questions Level 6, 7 & 8

**1.** **Level 6 Toys**

 The cost of an old toy vehicle depends on its condition and on whether it is in its original box.





 A Mail Van in excellent condition, and in its original box, costs **£125**.

(a) How much is a Mail Van in **good** condition, and in its box?



£ ..............................

1 mark

(b) How much is a Mail Van in **good** condition, **but not in its box**?



£ ..............................

1 mark

(c) A Petrol Tanker in excellent condition, and in its box, costs £152.

 Another Petrol Tanker should be sold for £98.80
Using the chart above, what is its condition and does it have a box?



1 mark

**2. Level 6 Continents**

 The table shows the land area of each of the World’s continents.



(a) Which continent is approximately 12% of the World’s land area?



……………………

1 mark

(b) What percentage of the World’s land area is **Antarctica**?
Show your working.



…………………… %

2 marks

(c) About **30%** of the World's area is **land**. The rest is water.The amount of **land** in the World is about **150 million km2.**

Work out the approximate **total area** (land and water) of the World.
Show your working.



…………………… million km2

2 marks

**3.** **Level 6 Hedging**

 A garden centre sells plants for hedges.
The table shows what they sold in one week.

|  |  |  |
| --- | --- | --- |
| Plants | Number of plants sold | Takings |
| Beech | 125 | £212.50 |
| Leylandii | 650 | £2437.50 |
| Privet | 35 | £45.50 |
| Hawthorn | 18 | £23.40 |
| Laurel | 5 | £32.25 |
| **Total** | **833** | **£2751.15** |

(a) What percentage of the total number of plants sold was **Leylandii**?

 Show your working.



……………… %

2 marks

(b) What percentage of the **total takings** was for Leylandii?

 Show your working.



……………… %

2 marks

(c) Which is the **cheaper** plant, Beech or Privet?
Show working to explain how you know.



1 mark

Total 5 marks

**4. Level 6 Police**

 A report on the number of police officers in 1995 said:

"There were **119 000** police officers.
**Almost 15%** of them were **women**."

(a) The **percentage** was **rounded** to the nearest whole number, 15

 What is the **smallest** value the percentage could have been, to one decimal place?

 Circle the correct answer below.

14.1% 14.2% 14.3% 14.4% 14.5%

14.6% 14.7% 14.8% 14.9%

1 mark

(b) What is the **smallest number** of women police officers that there might have been in 1995?

 (Use your answer to part (a) to help you calculate this answer.)

 Show your working.

2 marks

(c) A different report gives exact figures:

|  |
| --- |
| Number of women police officers |
| 1988 | 12 540 |
| 1995 | 17 468 |

 Calculate the **percentage increase** in the number of women police officers from 1988 to 1995

 Show your working.

.............……………….. %

2 marks

(d) The table below shows the **percentage** of police officers in 1995 and 1996 who were women.

|  |  |
| --- | --- |
| 1995 | 14.7% |
| 1996 | 14.6% |

 Use the information in the table to decide which one of the statements below is true. Put a tick () by the true statement.

 In 1996 there were **more** women police officers than in 1995. ............……....…

 In 1996 there were **fewer** women police officers than in 1995. ................………

 There is **not enough information** to tell whether there were ................………..
more or fewer women police officers.

 Explain your answer.

1 mark

**5. Level 7 Time**

 The pie chart shows how much time **each day**, on average, we spend doing different things.

"How Britons use their time (1995 data)"



*Data from 'Economic Trends', Office for National Statistics,  Crown Copyright 1998*

(a) The sum of the percentages is not 100%.

 Does this mean there must be a mistake in the pie chart?

 Explain your answer.



1 mark

(b) Calculate how much time in one day (24 hours) we spend on average on **paid work**.

 Show your working and give your answer in hours and minutes.



.........………...... hours ........……........ minutes

2 marks

(c) Most days of paid work are at least 7 hours long.

 Give one reason why the average amount is **less** than this.



1 mark

**6. Level 7 Earnings**

 The table shows the average weekly earnings for men and women in 1956 and 1998.



(a) For **1956**, calculate the average weekly earnings for women as a percentage of the average weekly earnings for men.

 Show your working and give your answer to 1 decimal place.

………………… %

2 marks

(b) For **1998**, show that the average weekly earnings for women were a **greater proportion** of the average weekly earnings for men than they were in 1956.

2 marks



1. **Level 7**

A cup of coffee costs £1.75

 The diagram shows how much money different people get when you buy a cup of coffee.

Complete the table to show what **percentage** of the cost of a cup of coffee goes to retailers, growers and others.

Show your working.

|  |  |
| --- | --- |
| Retailers | % |
| Growers | % |
| Others | % |

2 marks

**8. Level 8 Births**

 Look at the table:



(a) In England, from 1961 to 1994, the birth rate **fell** by 26.1%.
What was the birth rate in England in 1994?

Show your working.

 …………………

2 marks

(b) In Wales, the birth rate also fell.
Calculate the **percentage fall** from 1961 to 1994.

Show your working.

 ………………… %

2 marks

(c) From 1961 to 1994, the birth rates in Scotland and Northern Ireland fell by the **same** amount.

 The **percentage fall** in Scotland was greater than the percentage fall in Northern Ireland.

 Put a tick () by the statement below which is true.



1 mark

**9.** **Level 8**

 A shop had a sale. All prices were reduced by 15%

 A pair of shoes cost **£38.25** in the sale.

 What price were the shoes before the sale?

 Show your working.

………………

2 marks

**10.** **Level 8 Percentage change**

 (a) One calculation below gives the answer to the question

**What is 70 increased by 9%?**

Tick (****) the correct one.



1 mark

 Choose one of the other calculations.

 Write a question **about percentages** that this calculation represents.

 calculation chosen: ...........................

 question it represents: ..................................................................

1 mark

Now do the same for one of the remaining two calculations.

 calculation chosen: ...........................

 question it represents: ..................................................................

1 mark

(b) Fill in the missing decimal number.

 To decrease by 14%, multiply by .....................

1 mark

(c) A **10% increase** followed by **another 10% increase**
is **not** the same as a total increase of 20%

 What is the total percentage increase?

Show your working.

.................. %

2 marks