# Practice Exam Questions – Level 2, Adult Numeracy.

**Level 2 Adult Numeracy questions: percentages.**
Allow about 25 minutes.
**You may NOT use a calculator. Bilingual dictionaries may be used.**

**Leve1 2 – N2. Percentages**
**N2/L2.2** identify equivalencies between fractions, decimals and percentages a) understand that fractions, decimals and percentages are different ways of expressing the same thing b) know that percentages are fractions out of 100 c) know that decimal fractions are expresses in tenths, hundredths, thousandths.
**N2/L2.7** order and compare simple percentages, and understand percentage increase and decrease
**N2/L2.8** find percentage parts of quantities and measurements (a) understand that percentages can be worked out in different ways (b) know how to work out VAT (c) understand that the rate of VAT is set by the government and is subject to change.
**N2/L2.9** evaluate one number as a percentage of another (a) understand that this may require changing a fraction to a percentage, and that it can be done in different ways.

**1.** 120 people are invited to the Christmas Party at work. $\frac{1}{6}$ were not able to come because they were doing other things. 20% of those left did not want to come. $\frac{1}{8}$ of those who said they would come had to cancel at the last minute. How many people came to the party?

| | |
|---|---|
| **A** 70 | **C** 82 |
| **B** 75 | **D** 84 |

**2.** Anne's food intake should contain no more than 1 250 calories per day. The table shows the number of calories in different foods.

| Food | Quantity | Calories |
|---|---|---|
| Banana | 25g | 20 |
| Marmalade | 25g | 66 |
| Muesli | 25g | 94 |
| Toast | slice | 55 |
| Milk | 100ml | 47 |
| Orange Juice | 100ml | 46 |
| Tea (no milk or sugar) | any | 0 |
| Sugar | level teaspoon | 17 |

For breakfast she has 50 grams of muesli, and a cup of tea.
She uses a total of 150ml of milk and 2 level teaspoons of sugar. She wants to know what this is as a percentage of her maximum daily calorie intake.

Which of these calculations shows this?

**A** $\dfrac{(94\times2)+(47\times1.5)+(17\times2)}{1250}\times100$    **C** $\dfrac{94+47+17}{1250}\times100$

**B** $\dfrac{1250}{(94\times2)+(47\times1.5)+(17\times2)}\times100$    **D** $\dfrac{1250}{94+47+17}\times100$

**3.** At a village fête, four friends have a go at a competition to estimate how full a bucket is.

Their estimates are $\dfrac{3}{4}$, $\dfrac{2}{3}$, 65% and 0.8. Which is the smallest of the estimates?

A $\dfrac{3}{4}$                            C $\dfrac{2}{3}$

B 65%                          D 0.8

**4.** Liz runs an ice-cream stall. To check how popular each flavour is, she records the number of each flavour sold.

| FLAVOUR OF ICE-CREAM | NUMBER SOLD |
|---|---|
| Strawberry | 4 |
| Mint Choc Chip | 5 |
| Raspberry | 7 |
| Chocolate | 14 |
| Banana | 3 |
| Toffee | 6 |
| Vanilla | 8 |
| Tutti Frutti | 3 |

What percentage of all the sales was the chocolate flavour?

A 7%                            C 28%

B 14%                        D 30%

**5.** A gardener keeps a record of the minimum temperature in °C each day. The thermostat on the greenhouse heater switches the heater on when the temperature falls below 0°C.

| Results for February | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Mon | Tues | Wed | Thurs | Fri | Sat | Sun |
| 1st week | 2 | 4 | 5 | 5 | 1 | -1 | -3 |
| 2nd week | -4 | -1 | 0 | 3 | 6 | 5 | 6 |
| 3rd week | 3 | 2 | -1 | 0 | 3 | -2 | 0 |
| 4th week | 0 | 4 | 7 | 8 | 3 | -1 | -2 |

For what percentage of the days in February is the temperature at least 5°C?

A 70%                          C 25%

B 40%                        D 7%

**6.** Greg went on a cycle ride.
He cycled 30 miles in 2½ hours, then returned home more slowly.
His return journey took him 2 hours 45 minutes.

How long did his return journey take him, compared with his outward time?

A 10% longer                  C $\dfrac{1}{11}$ longer

B 11% longer                  D 10 minutes longer

**7.** A Sunday newspaper offers space for house sales at a reduced rate.
The normal price for a house sales advert is £84. The reduced price is £28,
giving a saving of £56. Which of these calculations gives the **saving** as a
percentage of the normal price?

A $\dfrac{84}{28}$ x 100%          C $\dfrac{56}{84}$ x 100%

B $\dfrac{84}{56}$ x 100%          D $\dfrac{28}{84}$ x 100%

**8.** A student heats up a pan of water.
He measures the temperature of the water every 10 seconds.
His results are shown in the table.

| Time (secs) | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature °C | 40 | 53 | 64 | 72 | 78 | 83 | 88 | 91 | 94 | 96 | 98 | 99 | 100 |

The experiment lasts for 120 seconds.
During this time the temperature increases by 60°C.
What percentage of this total increase in temperature happens during the first
half of the time taken to do the experiment?

A 48%          C 80%
B 50%          D 88%

**9.** A travel company is comparing its results for 1998 with those for 1999.
The bar chart shows the numbers of visitors to five major European cities in
March of each year.



**Numbers of Visitors to five major European cities in March**
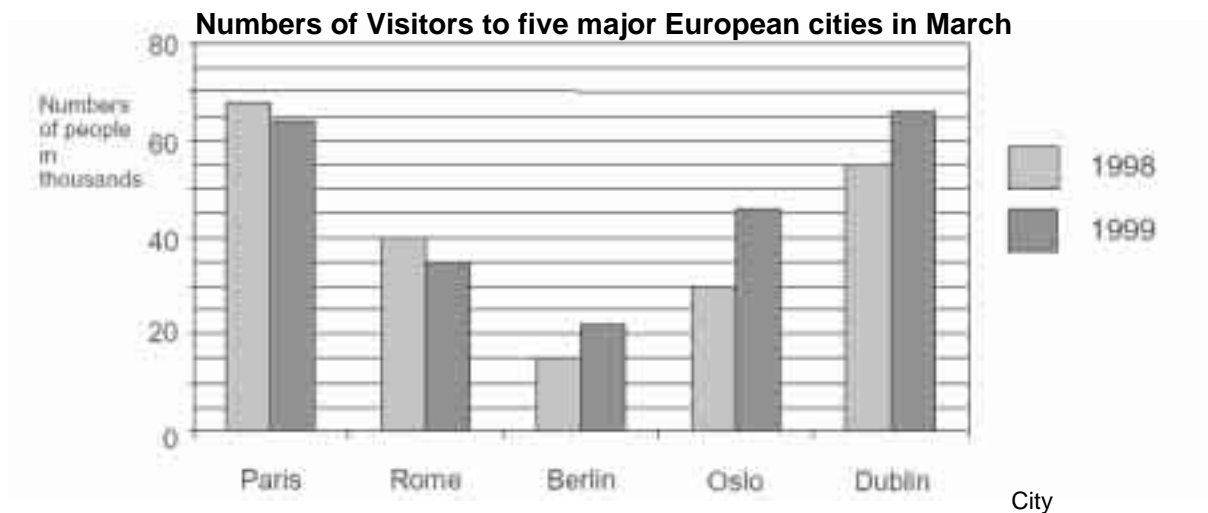
For some of the cities, the number of March visitors increased from 1998 to
1999. Of these, which city showed the smallest percentage increase in March
visitors from 1998 to 1999?

A Paris          C Oslo
B Berlin          D Dublin

**10.** The table shows the current and new Council Tax rates for West Forest District Council.

| West Forest District Council | | |
|---|---|---|
| **Band** | **Current Council Tax** | **New Council Tax** |
| **A** | £520 | £546 |
| **B** | £619 | £649 |
| **C** | £707 | £742 |
| **D** | £796 | £836 |
| **E** | £973 | £1021 |
| **F** | £1150 | £1207 |
| **G** | £1327 | £1393 |
| **H** | £1580 | £1659 |

For a house in Band A, the new rate represents an increase over the current rate of about

| | | | | |
|---|---|---|---|---|
| **A** | 1% | | **C** | 26% |
| **B** | 5% | | **D** | 95% |

**11**. This question is about company employees.
The table shows the number of employees by gender for three years.

| Year | Number of Employees | |
|---|---|---|
| | **Men** | **Women** |
| **1998** | 350 | 150 |
| **1999** | 290 | 210 |
| **2000** | 275 | 225 |

What percentage of the total employees in 1998 are men?

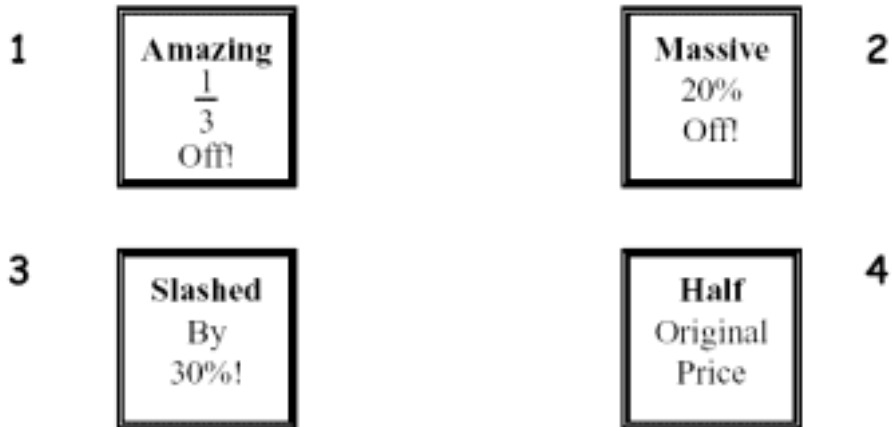| | |
|---|---|
| **A** 22% | **C** 43% |
| **B** 30% | **D** 70% |

**12.** The table gives the sales figures for a popular toy for last year.
In a sales report, the increase in monthly sales from June to December has to be quoted, as a percentage of June's sales. Which calculation will give this increase?

| Sales for 1999 | |
|---|---|
| **Month** | **Sales ( £'000s )** |
| January | 1.4 |
| February | 1.6 |
| March | 1.7 |
| April | 1.6 |
| May | 1.8 |
| June | 1.7 |
| July | 2.1 |
| August | 2.6 |
| September | 1.8 |
| October | 2.4 |
| November | 5.6 |
| December | 7.5 |

**A** $\dfrac{7.5}{7.7-1.7}\times1.7$

**B** $\dfrac{7.5-1.7}{7.5}\times100$

**C** $\dfrac{7.5-1.7}{1.7}\times100$

**D** $\dfrac{7.5-1.7}{100}\times7.5$

**Questions 13 and 14 are about sale labels in a clothes shop.**
Kay has been given 4 labels to put on the sale rails at the clothes shop where she works.

1

| Amazing |
| $\frac{1}{3}$ |
| Off! |

| Massive |
| 20% |
| Off! |

2

3

| Slashed |
| By |
| 30%! |

| Half |
| Original |
| Price |

4

**13**. Which label should she put on the trousers that are down from £24 to £16?

| **A** Label 1 | **C** Label 3 |
| **B** Label 2 | **D** Label 4 |

**14**. Which label should she put on the coats that are down from £50 to £35?

| **A** Label 1 | **C** Label 3 |
| **B** Label 2 | **D** Label 4 |

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## Answers

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | Total |
| | | | | | | | |

## Tutor Comments

# Answer sheet

## Level 2 Percentage questions

1  –  **A** 70

2  –  **A** $\dfrac{(94 \times 2) + (47 \times 1.5) + (17 \times 2)}{1250} \times 100$

3  –  **B** 65%

4  –  **C** 28%

5  –  **C** 25%

6  –  **A** 10% longer

7  –  **C** $\dfrac{56}{84}$ x 100%

8  –  **C** 80%

9  –  **D** Dublin

10 –  **B** 5%

11 –  **D** 70%

12 –  **C** $\dfrac{7.5 - 1.7}{1.7} \times 100$

13 –  **A** Label 1

14 –  **C** Label 3

**Allow about 25 minutes.**