

How to pass Level 1 Numeracy in a nutshell.

Learn the following facts.

Number

To change a **fraction to a decimal**, divide the numerator (top number) by the denominator (bottom number).

eg $\frac{1}{4} = 1 \div 4 = 0.25$

To change a **decimal to a percentage**, multiply by 100. When you multiply by 100 the decimal point moves 2 places to the right.

eg $0.34 = 34\%$ $0.175 = 17.5\%$ $0.034 = 3.4\%$

To change a **decimal to a fraction**, think about the place value of the last digit of the number.

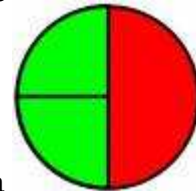
eg in 0.25 the 5 is in the hundredths column. So $0.25 = \frac{25}{100} = \frac{1}{4}$

$0.6 = \frac{6}{10} = \frac{3}{5}$

$0.13 = \frac{13}{100}$

When adding two fractions don't make the mistake of just adding the numbers!

$$\frac{1}{2} + \frac{1}{4} = \frac{2}{6} \quad \times$$



To do this sum, change a half into quarters first. You know that a half is the same as 2 quarters. So

$$\frac{1}{2} + \frac{1}{4} = \frac{2}{4} + \frac{1}{4} = \frac{3}{4} \quad \checkmark$$

To find a **percentage** of a number, multiply by the percentage and divide by 100.

eg 5% of 68 = $5 \times 68 \div 100 = 340 \div 100 = 3.4$

To share an amount in a **ratio**, add the numbers in the ratio first, then divide the total amount by your answer to find the value of one share. Then multiply by each number in the ratio.

eg share £600 in the ratio 2:1.

$2 + 1 = 3$ $\pounds 600 \div 3 = \pounds 200$ $2 \times 200 = \pounds 400$ $1 \times 200 = \pounds 200$ Answer $\pounds 400:\pounds 200$

eg share £9000 in the ratio 1:3:5

$1+3+5 = 9$ $\pounds 9000 \div 9 = \pounds 1000$ $1 \times 1000 = 1000$ $3 \times 1000 = 3000$ $5 \times 1000 = 5000$

Answer $\pounds 1000:\pounds 3000:\pounds 5000$

Always check your answers add up to the total amount you are sharing.

Rounding

To round a number to the nearest 100, look at the 10's digit. If it is 5 or more, round up. If it is less than 5, round down.

eg 349 is 300 to the nearest 100, because 4 is less than 5

693 is 700 to the nearest hundred, because 9 is more than 5

259 is 300 to the nearest hundred because the tens digit is 5.

To round to the nearest 1000, check the hundreds digit. Again if it is 5 or more, round up. If it is less than 5 round down.

eg 4398 is 4000 to the nearest 1000, because the hundreds digit is 3

5590 is 6000 to the nearest 1000, because the hundreds digit is 5.

Rounding is often used to **estimate** the answer to a difficult sum.

eg $39 \times 71 \approx 40 \times 70 = 2800$ (\approx means approximately equal to.)

$456 \times 239 \approx 500 \times 200 = 100,000$

Measures

Length

10mm = 1cm

100cm = 1m

1000m = 1km

Weight

1000g = 1kg

1000kg = 1 tonne

Capacity

1000ml = 1 litre

100cl = 1 litre

Time

60 seconds = 1 minute

60 minutes = 1 hour

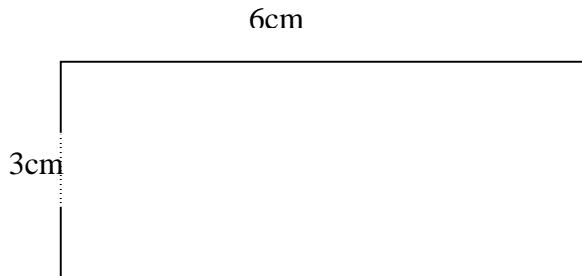
24 hours = 1 day

365 days = 1 year (except on a leap year when this is 366)

Perimeter, Area and Volume

To find the area of a rectangle multiply the length by the width. Always make sure the units are the same before you multiply. The units for area will be cm^2 or m^2 or km^2 .

To find the perimeter, add up all the sides. The perimeter is a length, so units will be cm, m or km.

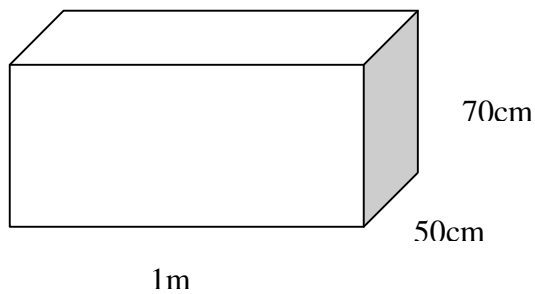


$$\text{Area} = 6 \times 3 = 18\text{cm}^2$$

$$\text{Perimeter} = 6 + 3 + 6 + 3 = 18\text{cm}$$

To find the volume of a cuboid (box shape) multiply the length by the width by the height. Make sure all the numbers have the same units first. The answer will be in cm^3 or m^3

eg what is the volume of this fish tank?



First change 1m to 100cm.

$$\text{Volume} = 100 \times 50 \times 70 = 350\,000\text{cm}^3$$

Data Handling

To find the mean average, add up all the data and divide by the number of data items.

eg Find the mean of 2, 4, 5, 6, 7, 8, 10

Total of data = 42 Mean = $42/7 = 6$

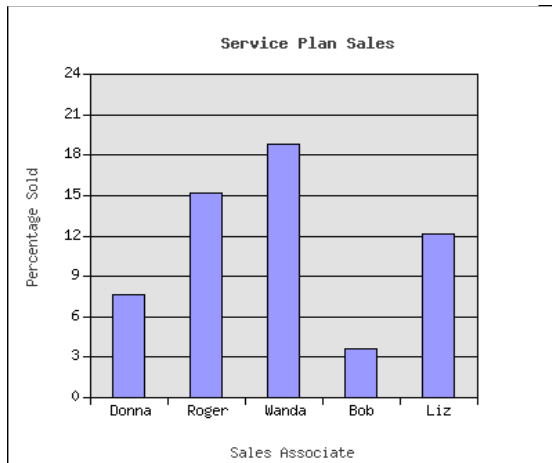
The range is the difference between the largest number and the smallest number.

eg Find the range of 2, 4, 5, 6, 7, 8, 10

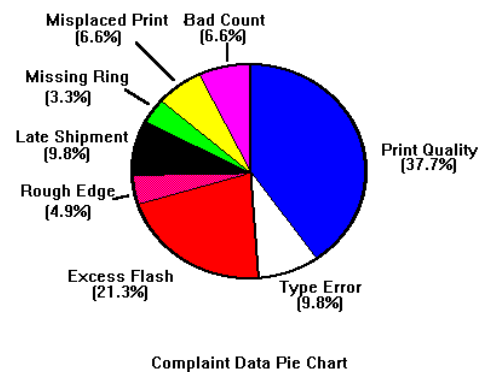
Range = $10 - 2 = 8$

Charts to display data

A **bar chart** clearly represents the data as bars. Make sure a bar chart has a title and labels on each axis. The vertical axis goes up and the horizontal axis goes across



A **pie chart** shows the data as a circle, split into sectors to show the proportion of each type. Make sure a pie chart has a title and labels for each sector. It sometimes needs a key, to show what each colour represents.



Pictograms: Represent data with pictures.

Example: Approximate number of people who live in selected cities are:

London: 6million Paris: $2\frac{1}{2}$ m Berlin 3m Rome $2\frac{1}{4}$ m Moscow 8m.

This data may be presented as a pictogram like this. Always make sure that your pictogram has a key, that shows what each picture represents.

Pictogram to show the population of some cities



Taking the test

Make sure you get to the test room early and that you know where you have got to go before the test day.

Before you enter the exam room, turn off your mobile phone!

Before you start the test make sure you understand all the buttons on the screen. Find the timer and make sure you know how to flag a question so that you can return to it later. Your time does not start until you open the first question. If you are not sure about anything ask the invigilator.

Take in plenty of paper and a pen and write down your working out. Number your questions on your working out to help you double check when you get to the end.

Keep an eye on the timer. After 15 minutes you should have attempted the first 10 questions. After half an hour, 20 questions. After 45 minutes 30 questions. After an hour you should be finishing off. Use the last 15 minutes to check your answers or redo questions you are not sure about. If you really can't do a question, rule out any silly answers and guess between the sensible ones. If you find you only have a minute left, guess the rest of the questions!

Don't panic! Keep calm and do your best