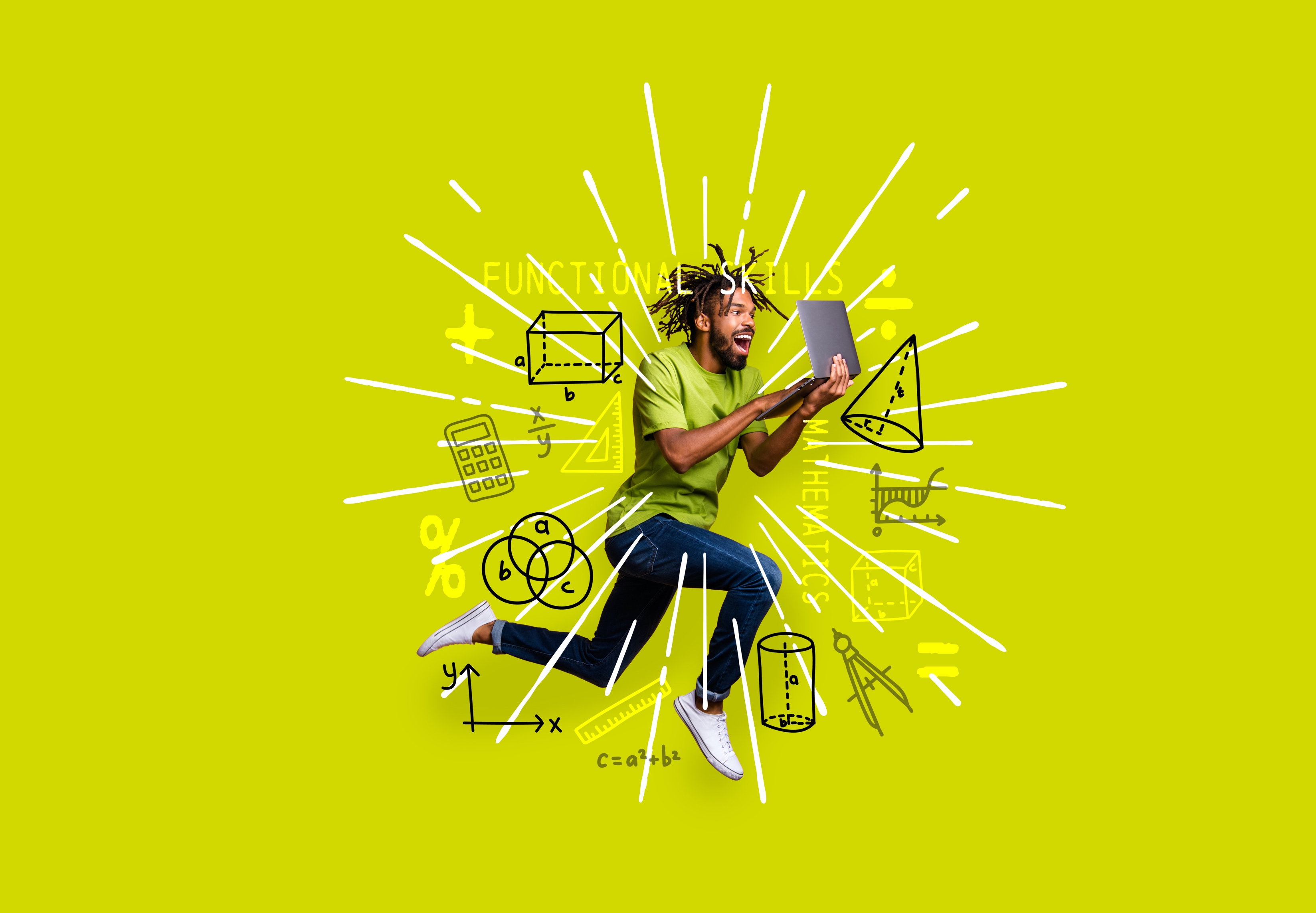
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**FUNCTIONAL SKILLS**

Maths Level 2



**13.Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting**

**Calculating amounts of money**

There are several types of problems that you will encounter involving money. Many questions will require you to add and subtract values in both **pounds (£)** and **pence (p).**

To convert from pounds to pence, **multiply (x)** by 100.

To convert from pence to pounds, **divide (/)** by 100.

E.g., to convert £3.28 into pence, we **multiply (x)** £3.28 by 100

So, £3.28 = 328p.

E.g., to convert 53p into pounds, we **divide (/)** 53p by 100

So, 53p = £0.53p.

**Calculating amounts of money**

A picture containing text, clipart

Description automatically generatedMoney problems often involve decimal calculations.

**Example**

A company charges a fixed cost of £6 for specially designed cards,   
plus a printing fee of 5p for each card.

a) How much will they charge for an order of 110 cards?

b) How many cards would you get for £20?

The final price is in pounds, change the pence to pounds. 5p = £0.05p

a) The cost for the cards is 110 x £0.05

= 11 x 0.5

= 11 x = £5.50

The total cost is £6 + £5.50 = £11.50

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**Calculating amounts of money**

How many cards would you get for £20?

To find out the printing cost, **subtract (-)** the fixed cost. (£6)

The printing charge is £20 **-** £6 = £14

Each card costs 5p to print, work out how many 5ps are in £14.

**x** = **divide (/)** by 5 = = 280

**Answer: 280 cards**

**Using the information provided, work out the answers to the following questions.**

**Question 1**

A customer purchases 3kg of carrots and 200g of mushrooms. The total cost is £2.95.

1kg of mushrooms costs £3.20

**Calculate the cost of 1kg of carrots.**

(Show your working out)

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**Question 2**

You receive £5.00 from your grandfather and £10.00 from your aunt for your birthday. With the money, you decide to buy a book for £7.99 and then some chocolates on offer for £3.90.

**Do you have any birthday money left, if so, how much?**

(Show your working out)

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**Question 3**

You want to buy 3 new household items costing:

* £15.75
* £145.00
* £5,253.46

You have a budget of £5,500.00

**Do you have any of your budget left, if so, how much?**

(Show you working out)

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**Compound Interest**

Interest can be added repeatedly. For example:

* money saved in a bank account might have interest added once every year
* money owed on a credit card might be charged interest every month

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Description automatically generatedCompound interest is interest that is calculated as a percentage of the current value of something, including any interest that has already been applied.

John puts £40 into a savings account that earns 5% compound interest per annum. (‘per annum’ means once a year)

How much money will John have after three years?

1. Find 5% of £40: 0.05 x 40 = £2
2. Add this to £40: £40 + £2 = £42

John will have **£42 after one year.**

1. Find 5% of £42: 0.05 x 42 = £2.10
2. Add this to £42: £42 + £2.10 = £44.10

John will have **£44.10 after two years.**

1. Find 5% of £44.10: 0.05 x 44.10 = £2.205 = £2.21 to 2 decimal places
2. Add this to £44.10: £44.10 + £2.21 = £46.31

John will have **£46.31 after three years.**

**Using the information provided, work out the answers to the following questions.**

**Question 4**

You see the following offer at the bank.

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| **Open a new savings account today:**   * **Invest for 3 years** * **Receive 3% compound interest** * **Maximum investment £1,500** |

You decide to invest the maximum amount of money.

**Calculate how much your investment will be worth after 3 years.**

(Show your working out)

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**Question 5**

You invest £200,000 for 5 years. Your investment earns 1.5% compound   
interest per annum (each year).

After 2 years you withdraw £50,000.

**Calculate how much money will be left in your investment account after the withdrawal.**

(Show your working out)

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**Question 6**

You take out a loan with an annual interest rate of 12.6%.

You borrow £1,500 for 3 years.

**Calculate how much money you will owe at the end of 3 years.**

(Show you working out)

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**Percentage increases and decreases**

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Description automatically generatedMoney questions can often involve percentages.

For example, you may have to calculate how much you save following   
a discount or the new price of an item when it has increased.

A shop is having a clearance sale. All items have 44% off.

A pair of designer shoes normally cost £375.

**a.) How much do you save when buying the shoes during the sale?**

**You save 44% of £375**

Change the percentage into a decimal: 44% = 44 divided by 100 = 0.44

Change the ‘of’ to ‘x’ and work it out: 44% of £375 = 0.44 x 375 = £165

**b.) How much do the shoes cost during the sale?**

Subtract the saving from the normal cost: £375 - £165 = £210

**Using the information provided, work out the answers to the following questions.**

**Question 7**

You are reading the ingredients list on a packet of reduced-sugar biscuits.

The sugar content has been reduced from 42g to 27g of sugar in each packet.

**Calculate the percentage reduction of sugar in each packet of biscuits.**

(Show your working out)

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**Question 8**

You have a diagram that measures 25 cm by 15 cm. You have been asked to resize the diagram to measure 185 mm by 111 mm.

**Calculate what percentage you have reduced the diagram by.**

(Show your working out)

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**Question 9**

Your current annualsalary is £18,000 before tax, and you have been rewarded a salary increase of 4%.

**Calculate what your new gross salary will be after the 4% increase.**

(Show your working out)

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**Taxes**

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Description automatically generatedA tax is an amount of money paid to the government.

For example, council tax is paid to the local council.

The amount of council tax paid is dependent upon the value of the property that you live in. The table shown is used to calculate council tax.

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| --- | --- |
| **Band** | **Council Tax** |
| **A** | £1,040 |
| **B** | £1,250 |
| **C** | £1,390 |
| **D** | £1,550 |

Mark’s house is valued in Band C. He lives alone, so the council reduce his council tax by 25%.

How much does Mark pay in council tax?

1. The council tax band for Band C is £1,390.
2. Find 25% of £1,390 **0.25 x** £**1390 = £347.50**
3. Subtract this from £13,90 …. £**1,390 – £347.50 = £1,042.50**

**Using the information provided, work out the answers to the following questions.**

**Question 10**

You pay 20% income tax on all earnings above £12,500 in a year.

**Calculate how much income tax will you pay if you earn £46,000 in one year.**

(Show your working out)

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**Question 11**

**VAT (Value-added tax)** is paid on some items that you buy.

The table shows the current **VAT** rates. This is how much you are charged on certain items as a percentage of the item’s costs.

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| **VAT (%)** | **Items** |
| **20** | Chocolate, crisps, cakes, ice-cream |
| **5** | Gas and electric |
| **0** | Children’s clothes, fruit and veg |

Before **VAT** is added you pay 32.88 per unit of electricity plus a standing charge   
of 40p per day.

**Calculate how much you will pay in VAT if you use 3000 units of electricity   
in one standard calendar year.**

(Show your working out)

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**Question 12**

You buy a car that costs £5,500, the car is subject to 20% **VAT.**

**Calculate the cost of the VAT and the total cost of the car.**

(Show your working out)

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**Budgeting**

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Description automatically generated

A record of the amount of money you earn and the amount you need to spend is called a budget.

Budgets are used to control both income and costs. For example, a business may

use a budget to ensure it does not overspend.

A budget can be a list or a table of things with an amount of money set aside for

each.

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| **Item required** | **Budget** |
| **Travel** | £250 |
| **Monthly food shopping** | £300 |
| **Monthly utilities** | £245 |
| **Savings** | £250 |
| **Rent** | £650 |
| **Entertainment** | £100 |
| **Luxury items** | £75 |

**Using the information provided, work out the answers to the following questions.**

**Question 13**

You are planning a family holiday.

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| **Item required** | **Travel** | **Hotel** | **Shopping** | **Food and drink** |
| **Budget** | £616 | £556 | £484 | £750 |

**Using the information provided in the table calculate your total holiday budget.**

(Show your working out)

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**Question 14**

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| **Item required** | **Travel** | **Hotel** | **Shopping** | **Food and drink** |
| **Budget** | £616 | £556 | £484 | £750 |

**Calculate what percentage of your budget have you set aside for food and drink.**

(Show your working out)

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**Question 15**

You are planning a birthday party and have invited 150 friends and family. You have hired an outside catering company to provide food on the night. The company are charging you £19.50 per person for the food.

**Calculate the minimum amount of money you should budget for the food.**

(Show your working out)

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Description automatically generated**Exam Question 1 - Calculator**

A company has a budget of eight hundred and ten thousand,   
five hundred and thirty pounds for a new project.

The first phase of the project costs £237,219.62

**How much of the budget does the company have left after the first phase?**

Show your working out and write the answer in the box below.

***(2 marks)***

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Description automatically generated**Exam Question 2 - Non-calculator**

The company selling the billboard is offering a discount.

The regular price of the billboard is £620 per month.

They are offering a discount of 12.5% from the regular price.

**What is the new monthly cost?**

Show your working out and write the answer in the box below.

***(2 marks)***

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**Your functional skills exam**

Your functional skills exams will consist of 2 papers.   
These papers will take place over the following time periods:

* calculator paper – 40 minutes
* non-calculator – 1 hour 50 minutes

Further information on the format that your test will take can be obtained from your training provider.

**Hints and tips**

* Find out what format your exam will be in. It may be paper-based   
  or on-screen.
* Plan what you are going to revise in advance. Don’t leave it until the last minute.
* Do as many past papers as you can so you are prepared for the day. If possible, try to complete the past papers following the same format as the actual exam.
* Find a quiet place to study and revise. It helps to sit at a table or a desk, and don’t revise in bed.
* Don’t stay up all night revising the night before your exam. It’s important to have a good rest so you feel refreshed and ready to go.
* Read the question 3 times. The first time to ensure you understand what is being asked, the second time to get an understanding of what you need to do, and a third time to figure out exactly what maths techniques you should be applying.
* If you are struggling with a question, skip it and come back to it later. Try not to sit getting worked up about a difficult question, it will only waste exam time. Move on and come back to it after you have answered the other questions.
* Take note of the number of marks available. This will give you an indication of how much working out you must show. For example, 1 mark will need an answer only and more marks will need you to show your working out.
* When you’ve finished the exam, go back and check your answers. If you still have time remaining, use it to check your answers and when you have checked your answers check them again.