

Exchange Rate

1. Peter exchanged £350 into kroners in order to visit Denmark.
 The exchange rate was £1 = 7.9 kroners.
 How many kroners did he receive? [2]

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(b) When in Denmark he paid 400 kroners for a fishing trip.
 Assuming the same exchange rate, what was the cost of the fishing trip, in £, correct to the nearest pound? [3]

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2. Miriam is planning a holiday in Pakistan.

(a) Miriam went to an exchange bureau to get some Pakistan rupees for her holiday.



She exchanged £540 for 85 000 Pakistan rupees.
 Complete the statement below, giving your answer correct to two decimal places.

‘Exchange rate: £1 buys Pakistan rupees’ [3]

3. An internet company, offering money exchange, displays a conversion exchange table as shown below.

		Exchange from				
		US dollars 1\$	GB pounds £1	Canadian dollars 1\$	euros 1€	Australian dollars 1\$
Exchange to	US dollars	1	1.59003	0.967202	1.4304	0.916279
	GB pounds	0.628915	1	0.608287	0.8996	0.576261
	Canadian dollars	1.03391	1.64395	1	1.4789	0.94735
	euros	0.699105	1.1116	0.676175	1	0.640575
	Australian dollars	1.09137	1.73532	1.05557	1.56109	1

The method of using this table of exchanges is as follows:
 To exchange GB pounds to euros, read down the table, £1 is 1.1116 euros.
 Using the exchange rates from the table, calculate the following.

(i) Exchange 200 US dollars to Australian dollars. [2]

(ii) How many Canadian dollars were exchanged to give 250 euros? [2]

Percentage Increase / decrease

1. Idris has been awarded a salary increase from £23 500 per annum to £23 970 per annum.
By what percentage has his salary increased? [3]

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2. Lucy bought a designer jacket for £120.
She made a profit of 26% by selling the jacket in an auction.
How much did Lucy’s jacket sell for in the auction? [3]

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3. The table below gives information from the Highway Code on stopping distances for cars.

Speed in mph	Stopping distance in metres = Thinking distance + Braking distance (Thinking distance is given first, followed by Braking distance)
20 mph	6 m > 6 m
30 mph	9 m > 14 m
40 mph	12 m > 24 m
50 mph	15 m > 38 m

The stopping distances given in the Highway Code are given assuming good driving conditions and alert drivers.

When a driver is tired, the thinking distance increases by 30% and the braking distance increases by 20%.

Calculate the stopping distance, in metres, for a tired driver travelling at 50 mph in good driving conditions. [4]

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4. Sam receives a discount of 7% on his phone bill by paying the full amount by the end of the month. His phone bill for February was £34. Sam paid his bill immediately how much did he have to pay. [3]

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5. In a sale a shop gives a 12% discount on all items.
Calculate the discount on a table with a marked price of £750.

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Reverse percentage / finding the Original amount - DIVIDE

1. A shop has reduced the price of a bicycle by 40% of its original price.

The sale price of the bicycle is £192.

Calculate the original price of the bicycle.

[3]

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2. In a sale the price of a shed is reduced by 30% of its original price.

The sale price of the shed is £182.

Calculate the original price of the shed.

[3]

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3. Freddy goes to buy a ticket for a concert.

A sign by the ticket office states “20% off all original ticket prices”.

Freddy comes away having paid a reduced price of £36.80 for his ticket.

What was the original price of Freddy’s ticket?

[3]

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4. Given that 65 % of a measurement is 43.55 metres, calculate the whole measurement

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Bill Problem 1

Mr Jones' electricity quarterly statement from Welsh Energy is shown below.

Some of the entries have been removed.

He pays for his electricity by monthly direct debit payments.

He gets a discount of £27.50 for paying by direct debit.

Use the information given on the statement to complete all of the missing entries and to calculate the balance of Mr Jones' account.

[6]

<i>Welsh Energy</i>		Electricity Statement			
		<i>Period: 1st July 2012 to 30th September 2012</i>			
A Jones 54 Forest View Swansea					
Meter reading last time	Meter reading this time	Units used	Price of each unit in pence	Amount £	
4267	4921	Units used	26.5	
		Quarterly charge		30.45	
		Total charge		
		VAT at 5% of the total charge		
		Balance from previous quarter		42.36 CR	
		Total to pay		
		<i>Payments received</i>			
		Direct Debit Discount		27.50 CR	
		Payment received 18th July 2012		55.00 CR	
		Payment received 18th August 2012		55.00 CR	
		Payment received 18th September 2012		55.00 CR	
		Balance to carry forward to next quarter		

Bill Problem 2

Mr. and Mrs. Hughes received their electricity bill. The details were as follows.

Present meter reading 7362

Previous meter reading 4854

Charge per unit 10.25p per unit

Service Charge 15.7p per day for 92 days

VAT 5%

Showing all your working, find the total cost of the electricity including VAT.

[5]

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Compound Interest- AER

1. Sian invests £7000 for 3 years at 4% per annum compound interest.
Find the compound interest earned in the 3 years. [4]
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2. Carys decides to invest £380 in a savings account for 6 years.
The account pays a rate of 2.54% AER.
Will Carys have sufficient money in her savings account to be able to buy a motor scooter costing £460 in 6 years' time?
You must show all your working and give a reason for your answer. [4]
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3. A leather sofa costs £2400.
Each year, the value of furniture depreciates by 18% of its value at the start of the year.
At the end of two years, by how much has the value of the leather sofa depreciated? [4]
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4. Harriet invests a sum of money into a savings account that pays compound interest at 3% per annum. No further deposits or withdrawals are made.
A spreadsheet is used to calculate the total amount, £A, in Harriet's account.
It contains the formula

$$A = 220 \times 1.03^x,$$

where x is the number of years since the investment was started.

- a. How much did Harriet initially invest in her savings account? [1]
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- b. Calculate the amount in Harriet's savings account after 3 years. [2]
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Tax Problem

1. Two different European Political Parties are proposing changing the rules for income tax payments for the tax year April 2018 to April 2019.

Income Tax proposed by the **Yellow Party**

April 2018 to April 2019

taxable income = gross income – personal allowance

- **personal allowance is €5000**
- **basic rate of tax 10% on the first €10 000 of taxable income**
- **middle rate of tax 25% is payable on all taxable income over €10 000 and up to €30 000**
- **higher rate tax 50% is payable on all taxable income over €30 000**

Income Tax proposed by the **Orange Party**

April 2018 to April 2019

taxable income = gross income – personal allowance

- **personal allowance is €10 000**
- **basic rate of tax 20% on the first €20 000 of taxable income**
- **higher rate tax 40% is payable on all other taxable income**

(a) During the tax year 2018 to 2019, Janina’s gross income is likely to be €55 000. Which party’s tax proposal would result in Janina paying the least tax, and by how much? You must show all your working

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(b) Samuli plays rugby for an international team. He is likely to earn €200 000 during the tax year 2018 to 2019. Without any calculations, explain why Samuli might favour the Orange Party’s proposal for income tax.

[1]

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