

WJEC MATHEMATICS

**HIGHER**

3 TIER TOPICS

**INTEREST (AER) and  
DEPRECIATION**

**@MrGoreMaths.**

Spec 1 – Numeracy – P2

1. *You will be assessed on the quality of your organisation, communication and accuracy in writing in this question*

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.

[6]

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Spec 2 – Numeracy – P2

3. Sabrina sees the following advertisement.

<p style="text-align: center;"><b>Money Today</b></p> <p style="text-align: center;"><i>Borrow today - why wait until payday?</i></p> <p style="text-align: center;"><i>Costs 1% per day compound interest</i></p>
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Sabrina knows that she will be paid in 2 weeks' time.  
She decides to borrow £400 for a period of 2 weeks.

How much will Sabrina have to pay back after 2 weeks?  
Show all your working.

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Spec 2 – Numeracy – P2

11. Dragon Nation Bank is advertising a savings account.

<b>Account</b>	<b>Nominal interest rate</b>	<b>AER Annual Equivalent Rate, correct to 2 decimal places</b>
Dragon Saver	7.6% p.a., paid quarterly	..... %

(a) Complete the AER entry in the table.

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(b) Explain why AER is used by the bank.

[1]

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Nov 2016 – Numeracy – P2

10. Huw wants to open a savings account.  
Here are the details of savings accounts advertised by two local Welsh banks.

**Banc Padarn**  
Nominal interest rate of 1.98%  
per annum  
Interest paid monthly

**Banc Teilo**  
AER 1.99%

- (a) (i) What is 1.98% as a decimal?  
Circle your answer. [1]

0.0198      0.198      1.098      1.98      98.0

- (ii) Which of these two banks should Huw choose in order to gain the most interest per annum?  
You must show your working. [4]

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(b) Interest earned from savings is taxable, according to the table below.

Tax rates for savings	
Basic rate taxpayer	20% on annual interest earned above £1000
Higher rate taxpayer	40% on annual interest earned above £500

Matthew is a higher rate taxpayer.  
Therefore, any savings interest he earns over £500 within a year is taxed at 40%.

On 1st May 2016, he invested £150 000 in a savings account that pays interest at a rate of 1.98% **per annum**.

- (i) What is this interest rate **per month**, written as a decimal? Circle your answer. [1]

0.0033            0.00495            0.00165            0.0099            0.0066

Savings interest is added at the end of every month.

- (ii) Calculate the date when the interest that Matthew earned went above his annual tax-free limit, and the amount of tax he would have to pay on this interest if he had closed the account on this date. [5]

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Date ..... Tax Matthew would have to pay .....

June 2017 – Numeracy – P2

1. Mali's scooter depreciated (decreased) in value by 24% in the **first** year.  
In all further years, her scooter depreciated by 13% of its previous year's value.  
She originally paid £850 for her scooter.  
Calculate the value of Mali's scooter after 7 years. [3]

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After 7 years, the value of Mali's scooter was £ .....

June 2017 – Numeracy – P2

10. Fatima wants to invest some money in a savings account. She has picked up leaflets from two building societies advertising their high-interest savings accounts.

**'Bannau' account**  
Nominal annual rate of  
3.85%  
Interest paid monthly

**'Eryri' account**  
Nominal annual rate of  
3.86%  
Interest paid every  
6 months

By comparing AERs, which account will offer Fatima the better interest rate on her investment? You must show all your working. [5]

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