

National 5 Applications of Mathematics

Course is split into 3 sections.

-> Managing Finance and Statistics (You have already started this)

-> Geometry & Measures

-> Numeracy

Things to note...

There will be a prelim for this course.

Final exam date - Thursday 2nd May (2 Papers)

Managing Finance & Statistics

Test 1 - Completed

Test 2

Test 3

Don't forget the Unit Outline Mr Welford!

Last Thing...

I expect everyone to bring a calculator with them to every class.

All slides will be uploaded to the website at the end of every week along with any homework.

firrhillhigh.org

Holidays!

Today we are learning...

How to calculate the cost of a holiday and compare prices to find the cheapest deal.

I will know if I have been successful if...

I can read a worded question and extract the key pieces of information I need.

I can calculate percentage decrease.

I can compare holidays and find the cheapest deal.



Finding the Best Deal

Company A – 7 nights		
Price per adult	Price per child	Each piece of luggage
£372.00	£247.00	£18.00

Company B – 7 nights	
Price per person	Each piece of luggage
£365	£8.00
10% off per child	

Company C – 7 nights	
Price per adult	Price per child
£432.00	£358.00
Special Offer: 15% discount	All baggage included

Answers

Answers:

- (1) A - £1420, B-£1464.80, C-1298.12, D-1299.04. C is cheapest
 (2) A - £1810, B-£1998.50, C-£1745.80, D-1962.72. C is cheapest
 (3) A - £1205, B-£1306.50, C-£1036.17, D-1187.27. C is cheapest
 (4) A - £1890, B-£2025.50, C-£1655.02, D-1955.23. C is cheapest

Currencies



List as many currencies as you can!

- 1) Japanese Yen
- 2)
- 3)

Foreign Exchange

Today we are learning...

How to convert between different currencies.

I will know if I have been successful if...



I understand what a conversion rate is.

I can convert from British Pounds to a foreign currency.

I can convert from a foreign current to British Pounds.

Currency	Sell rate	Buy rate
🇪🇺 Euro (EUR)	1.1025	1.2053
🇺🇸 US Dollar (USD)	1.2595	1.3769
🇦🇺 Australian Dollar (AUD)	1.7261	1.9186
🇨🇦 Canadian Dollar (CAD)	1.6437	1.8266
🇸🇬 Singapore Dollar (SGD)	1.7219	1.9333
🇦🇪 UAE Dirham (AED)	4.5795	5.1771
🇦🇷 Argentine Peso (ARS)	N/a	50.1042
🇧🇸 Bahamian Dollar (BSD)	1.2094	1.4046
🇧🇩 Bahraini Dinar (BHD)	0.4631	0.5316
🇧🇧 Barbadian Dollar (BBD)	2.4272	2.8843
🇧🇿 Belizean Dollar (BZD)	2.4859	3.1916
🇧🇲 Bermudian Dollar (BMD)	1.2038	1.4237
🇧🇷 Brazilian Real (BRL)	4.7289	5.5823

Converting Between Currencies




Currency	Sell rate
🇪🇺 Euro (EUR)	1.1025
🇺🇸 US Dollar (USD)	1.2595
🇦🇺 Australian Dollar (AUD)	1.7261

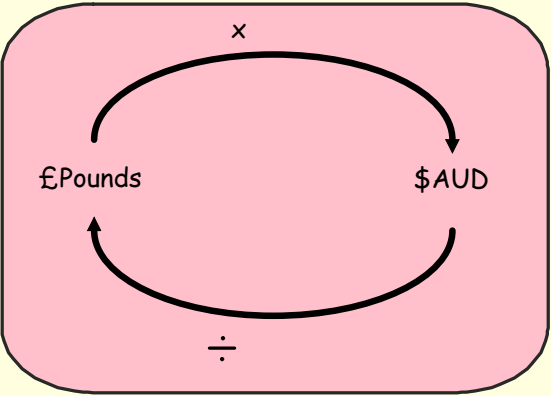
£Pounds Euros

$\times 1.1025$




$\div 1.1025$

Converting Between Currencies

Currency	Sell rate
 Euro (EUR)	1.1025
 US Dollar (USD)	1.2595
 Australian Dollar (AUD)	1.7261



Converting Between Currencies

Currency	Sell rate
 Euro (EUR)	1.1025
 US Dollar (USD)	1.2595
 Australian Dollar (AUD)	1.7261

Convert £25.50 into...

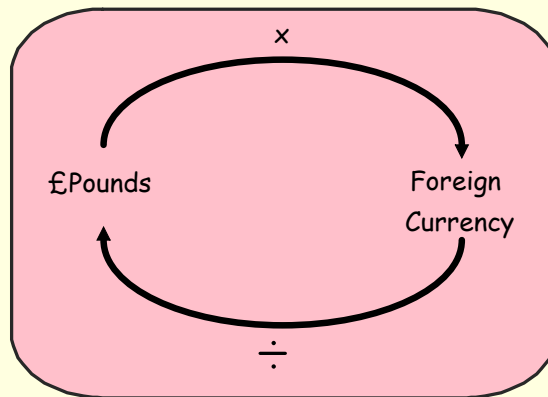
- 1) Euros
- 2) US Dollars
- 3) Australian Dollars

Converting Between Currencies

Currency	Sell rate
 Euro (EUR)	1.1025
 US Dollar (USD)	1.2595
 Australian Dollar (AUD)	1.7261

Convert into British £Pounds...

- 1) 23.50 Euros
- 2) 234.00 US Dollars
- 3) 1093.21 Australian Dollars



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Answers are at the back for you to check as you progress.

Starter



By converting these amount back into pounds using the table, figure out which amount is worth the most.

- 1) 76.74 Euros
- 2) 89.94 US Dollars
- 3) 115.76 AUS Dollars
- 4) 29.66 Dinars
- 5) 143.82 Barbados Dollars

Currency	Exchange Rate
Euros	1.0964
US Dollars	1.2492
Australian Dollars	1.7023
Bahraini Dinars	0.4529
Barbados Dollars	2.3970

Numeracy Aims Instead!

Foreign Exchange - Continued

Today we are learning...

I can convert between British and foreign currencies involving the use of at least three currencies in a multi stage task.

I will know if I have been successful if...

I can clearly lay out my working.

I can select the correct exchange rate to use.

I can convert between multiple currencies by using the correct operation.



What does this sort of question look like?

1) Anne is going to Spain on holiday and then on to visit her relative in Switzerland. She has £400 spending money which she initially change to Euros. (£1 = 1.58 Euros)

She spends 350 Euros in Spain.

The remainder of her money she exchanges for Swiss Francs, the currency of Switzerland. (1 Euro = 1.45 Swiss France.

How many Swiss Francs does she receive?

What steps have we taken to solve these questions?

Step 1 - Convert from Pounds into 1st foreign currency.

Step 2 - Calculate how much they have left.

Step 3 - Convert from 1st currency into 2nd currency.

What does this sort of question look like?

2) Ahmed is going to Sweden and Norway on holiday. He has £500 spending money which he initially change to Swedish Krona. (£1 = 13 Krona).

He spends 3700 Krona in Sweden.

The remainder of his money he exchanges for Norwegian Krone. (1 Swedish Krona = 0.9 Norwegian Krone).

How many Norwegian Krone does he receive.

2520 Krone

Another Exam Style Question

Non-calculator Julie booked a holiday to Austria and changes £2300 into Euros.

She booked the holiday in May when the exchange rate for Euros in May was £1 = 1.6348 Euros but she waited until June to change her money into Euros, when the exchange rate was only £1 = 1.5219 Euros.

How much money did Julie lose by waiting a month?

Foreign Currency in an Exam or Test.

National 5 Level -

Involve at least 3 currencies.

Require conversions using either or both multiplication or division.

Have a number of steps.

Be set in a real life context.

National 4 Level -

Involve 2 currencies.

Be set in a real life context.

2018 Exam

7. Gavin is going to South America to do charity work.
He changes £750 into Bolivian boliviano.

Currency exchange	
Pounds sterling (£)	Other currencies
1	20 Argentine peso
1	9 Bolivian boliviano
1	4 Brazilian real

- (a) How many Bolivian boliviano will he receive? 1

He spends 2700 Bolivian boliviano.

He changes the remaining Bolivian boliviano into Argentine peso.

- (b) How many Argentine peso will he receive? 2

Commission

What is commission?

In foreign exchange, the commission is the fee charged for the service of carrying out a foreign currency exchange transaction. Commission is the primary source of profit for an exchange company.

For example if a company charge 2% commission then is you exchange

£100 into 122.34 Euros you would lose 2% and only receive 119.89 Euros.

How do we calculate Commission?

I have £440 and want to change this for a trip to America.

Which company offer the best deal?

Company A

£1 = \$1.28

3% Commission

Company B

£1 = \$1.32

3.2% Commission

Which deal is the best?

I want to exchange £520 into US Dollars which company offers the best deal?

Company A

£1 = \$1.47

4% Commission

Company B

£1 = \$1.42

0% Commission

Company C

£1 = \$1.46

1.2% Commission

Company D

£1 = \$1.56

2.2% Commission

Company E

£1 = \$1.65

5.1% Commission

Company F

£1 = \$1.59

3.5% Commission

Saving Money

Today we are learning...

How to calculate interest for a savings account.

I will know if I have been successful if...

I can calculate how much interest is gained in a year.

I can calculate how much tax may be deducted.

I can calculate any bonuses that may get added.



- **Easy-access savings: allows withdrawals**
 - Coventry BS – 1.4%
 - Birmingham Midshires – 1.35%
 - Tesco Bank – 1.34%
- **Savings via your bank account**
 - Nationwide – 5% up to £2,500 for 12mths
 - Tesco Bank – 3% up to £3,000
- **Fixed-rate accounts: must lock cash away**
 - New.** Raisin – 1.8% for 9mths + £20-£80
 - New.** Charter Savings Bank – 2.06% for 1 year
 - New.** Raisin – 2.02% for 1yr + £20-£80
 - New.** Secure Trust Bank – 2.37% for 3 years
 - New.** Secure Trust Bank – 2.69% for 5 years

AER ^				
<ul style="list-style-type: none"> • 0.10% for balances between £1 and £24,999 • 0.20% for balances between £25,000 and £99,999 • 0.25% for balances equal to and above £100,000 <p>AER/Gross p.a. (Variable)</p>	<p>Tax-free p.a. (variable)/AER</p> <ul style="list-style-type: none"> • 0.25% for balances between £1 and £24,999 • 0.75% for balances equal to and above £25,000 	<p>1 year fixed</p> <ul style="list-style-type: none"> • 1.00% for balances between £1,000 and £24,999 • 1.10% for balances equal and above £25,000 <p>2 year fixed</p> <ul style="list-style-type: none"> • 1.15% for balances between £1,000 and £24,999 • 1.25% for balances equal and above £25,000 <p>AER/ tax-free p.a. (fixed)</p>	<p>1 year fixed</p> <ul style="list-style-type: none"> • 1.00% AER/1.00% gross p.a. (fixed) for balances between £500 and £49,999 • 1.10% AER/1.09% gross p.a. (fixed) for balances between £50,000 and £2,000,000 <p>AER/ gross p.a. (fixed)</p> <p>2 year fixed</p> <ul style="list-style-type: none"> • 1.15% AER/ 1.14% gross p.a. (fixed) for balances between £500 and £49,999 • 1.25% AER/ 1.24% gross p.a. (fixed) for balances between £50,000 and £2,000,000 	<ul style="list-style-type: none"> • 0.75% for balances above £1 <p>AER/ gross p.a. (variable)</p>

What is interest?

Interest is a fee the bank pay you for saving money with them.

p.a. stands for "per annum" and means per year.

How much interest could I make?

Halifax has an interest rate of 2.1% p.a.

This is tax free!

How much interest would you receive on £1000 at the end of the year?

How much interest could I make?

RBS has an interest rate of 3.2% p.a.

The interest earned is taxed at a rate of 20%

How much interest would you receive on £500 at the end of the year?

How much interest could I make?

TSB has an interest rate of 2.4% p.a.

If you do not withdraw any money across the year you get an bonus of 0.25%

The interest earned is taxed at a rate of 20%

How much interest would you receive on £250 at the end of the year?

10-15 mins

For the first 10 minutes of today's lesson, carry on with the worksheet we started yesterday. Start working as quickly as you can so we can move on in a moment.

Use the slides from last lesson to help or ask me any questions also.

Answers

Answers: (1) £159.84, £158.40, £148.20, Inverbank earns most interest. (2) £100.62, £99.71, £104.50, Pullbank earns most interest. (3) £118.27, £117.60, 115.08, Inverbank earns most interest.

Compound Interest

Sometimes we invest over a long period of time and not just one year!

Sean invests £400 in a building society at an annual interest rate of 1.8% p.a. .

How much will be in his bank account after 3 years?

Compound Interest

Sometimes we invest over a long period of time and not just one year!

Mia invests £550 in a building society at an annual interest rate of 2.4% p.a. .

How much will be in his bank account after 4 years?

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