

Busy at Maths 6 - Sixth Class

Chapter 27: Money

A Value for money!

Super Savers	Value Town	Super Prices
<p>€1.50  Now two litres for the same price!</p> <p>Eggs: 6 pack €2</p> <p>Sausages: 200g for €1.50</p> <p>Yoghurt: €1.60 each</p>	<p>Eggs: €2.40 for six</p> <p>Now two extra eggs free!</p> <p>Milk 1 litre: €0.80</p> <p>Sausages: 400g for €2.80</p> <p>Yoghurt: €1.80 each</p> <p>Now 4 for the price of 3!</p>	<p>Milk 2 litres: €1.80</p> <p>Eggs €0.35 each </p> <p>Sausages: €5.50 per kg</p> <p>Yoghurt: €1.70 each</p> <p>or €3 for 2!</p>

- If you wanted 4 litres of milk, which shop would give you the best value?
- A baker bought 24 of the cheapest eggs. How much did she pay?
- If you want to buy 12 yoghurts, which shop gives the best value?
- Shane bought 6 yoghurts in *Super Prices*. He misread the sign and thought it was 3 for €2. How much extra did he have to pay?
- What is the cost of 500g of sausages in each shop?
- The owner of a bed and breakfast needs 48 eggs and 3kg of sausages. She has time to go to one shop only. Which should she choose to get the best value?

B Broadband and TV offer!

<p>SPEED NET</p> <p>Television: €30 per month</p> <p>Broadband: 6 months free with television package. €40 per month thereafter.</p>	<p>Home Entertainment</p> <p>Television: €40 per month Broadband: €30 per month</p> <p>Order both and get a 37½% discount on television price</p>	<p>Direct TV</p> <p>Television and broadband: €72 per month</p> <p>Special offer: 25% off per month, if you order today!</p>
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- (i) Work out how much you would pay for a television and broadband package with each company for one year. (ii) Which shop offers the best value?
- If you had to sign a two-year contract, is the same package the best value?
- Why might a company offer a discount for six months only?

C Special Offers!

Work out the percentage saving for each of these:

Hint: The % saving is the same no matter what the price for one item is, but it might help you to work it out if you pick a price of €1.



(a)



(b)



(c)



(d)



Money – Value Added Tax (VAT)







VAT (or **Value Added Tax**) is a tax added to the price of goods and services we buy. A business charges VAT as a percentage of the selling price and then pays the money to the government. The VAT charged varies for different items. This book uses the following rates.

0% VAT: Children's clothes, books and comics, uncooked food, milk, fruit/veg.


13% VAT: Café, restaurant food, hotels, cinema, hairdressers/barbers.

23% VAT: Sweets and soft drinks, electrical goods, toys, cakes and muffins.

1. VAT in the Superstore – fill in the boxes (use the VAT rates from above).

<p>(a)  Television €350.00 VAT @ 23% € _____ Price incl. VAT € _____</p>	<p>(b)  Five bananas €1.37 VAT @ _____ % € _____ Price incl. VAT € _____</p>
<p>(c)  Book € _____ VAT @ _____ % € _____ Price incl. VAT €11.99</p>	<p>(d)  Superstore Café €6.00 VAT @ _____ % € _____ Price incl. VAT € _____</p>
<p>(e)  Microwave € _____ VAT @ _____ % € _____ Price incl. VAT €123.00</p>	<p>(f)  Bottle of Cola € _____ VAT @ _____ % € _____ Price incl. VAT €2.46</p>

2. A shopping trip – calculate the prices including VAT.

- (a) Eve went to the hairdressers as soon as she got into town. What did she pay for a haircut, if the price before VAT was €50? 
- (b) After that, she bought two apples from a fruit stall for €0.39 each before VAT.
- (c) Next, she met two of her friends and they went to the cinema. The tickets cost €7 each before VAT and Eve paid for all three tickets.
- (d) After the film, she met her younger brother for dinner and she paid the bill. Before VAT the total of the bill was €27.
- (e) After leaving the restaurant, she called into a shop and bought a litre of milk costing €1.19 and a packet of sweets for €2 (both prices before VAT).
- (f) Eve then went to an electronics shop and bought headphones that cost €34 before VAT.
- (g) Lastly, she bought a book for €9.99 and a blueberry muffin costing €3 for the journey home (both prices before VAT).
- (h) How much in total did Eve spend on her shopping trip?
- (i) How much money had she left from €200?

Challenge

Express the amount of money Eve spent on her shopping trip as a percentage of her original €200. (Round to 2 decimal places.) _____

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Money - Interest

Borrowing and saving

A

Simona bought a new television costing €500. She didn't have to pay for it until a year later but it cost her an extra 4% in **interest**. How much altogether did she have to pay for the television?



Price: 100% = €500
Interest: 4% = €20
Total: 104% = €520

Short way

100% = €500
1% = €5
104% = €520

B

Tony deposited €2,500 in a bank, at an interest rate of 3% for a year. How much was his money worth at the end of the year?



Deposit: €2,500
Interest: 3% = €75
Total: €2,575

Short way

100% = €2,500
1% = €25
103% = €2,575

Now try these problems involving **simple interest**. You may use a calculator to check answers!

- Joanne bought a car that costs €7,000. She borrows the money for a year at a rate of 6% interest. How much will she pay in total for the car?
- Mark took out a loan of €1,750 for a year at an interest rate of 11% to upgrade his kitchen. How much did he have to pay back at the end of the year?
- Joe invested €760 in a post office savings account for one year at an interest rate of 3.5%. What was his investment worth at the end of the year?
- Conor borrowed €3,400 from the Credit Union. The interest rate was 6.25% per year. How much interest did he owe after 6 months?



- Frankie had €1,350. He put it on deposit in a bank for two years where he was paid 3.5% interest per year (per annum). He spent €1,379 of his money two years later buying a racing bicycle. How much money had he left?



- Work out the interest for these after (i) 3 years and (ii) 6 months.

(a) €1,800 at 7% per year	(b) €1,350 at 5.8% per year
(c) €1,950 at 6% per annum	(d) €1,760 at 6.5% per annum
(e) €2,580 at 9.5% p.a.	(f) €3,240 at 8½% p.a.
- Sofia borrowed €1,660 for two years at an interest rate of 8.45% per annum. How much, in total, had she to pay back at the end of the two year period?

Challenge 1 Kay wants to get a new television and pay for it in a year's time. *Electric City* will sell it for €350 and charge 5% interest. *Total Television* charges €300 and 7.5% interest. How much will Kay save by choosing the better value deal?

Challenge 2 Alex put €1,580 on deposit for 2 years at a rate of 4.25% p.a. When the 2 years were up, he took his money from the bank and bought a computer for €978 and the latest iphone for €565. How much money had he left?

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Money

1. School tour

Work out the cost of this tour for 32 children and 2 teachers.


- Bus: €3 per child, €5 per adult.
- Entry to zoo: Adult €5.00, child €4.00. 10% discount for groups over 20.
- Lunch: €5.35 per person, service charge 10%.
- Adventure park: €1.50 per go. Teachers arranged a deal where each person (including teachers) got five 'goes' for the price of four on the **Big Dipper**.
- Total cost of the tour: _____



Gifts 'R' Us

Use your calculator!

Round to 2 decimal places where necessary.


- The shop imported 60 televisions from Japan costing ¥35,640 each.  If the €/¥ exchange rate was 148.50, how much did one television cost in Euro?

- A customer could pay €375 for a television, or get a loan at 6% interest per year. How much would a customer pay in total if she got a loan for 6 months?

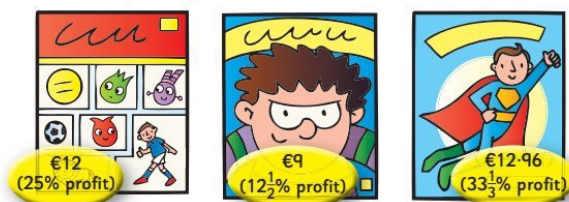
- A box of 200 packets of batteries cost the shop €270. They put them on sale as a special offer of 2 packets for the price of 1.  If one packet was on sale for €3.30, what was the overall percentage profit?

- The shop sold a toy car for €15 and a remote control car for €27.50. They sold 200 cars altogether in the ratio 3:2 (toy cars:remote control cars). How much money did they take in altogether on the sale of the cars?

- The ratio of skateboards to snowboards sold in a shop over one month was 9:4. If the combined sales were 325, how many of each were sold?

- Gifts 'R' Us* included a 10% profit on each doll's house. They then added VAT at 23% to get the sale price. If the sale price was €184.50, how much did the doll's house cost *Gifts 'R' Us*? 

- Below are three limited edition comics on sale, including the profit for each one.



- What did each comic cost the shop to buy?
- If they reduced the price of each comic by 10% during a sale, what would the new price for each comic be?

- Mary bought three books with list prices of €9.71, €5.47 and €6.93. (i) If she got a discount of $33\frac{1}{3}\%$ off her total bill, how much did she pay? (ii) The three books cost the shop €4 each. What overall percentage profit did the shopkeeper make?

Challenge

There was a $16\frac{2}{3}\%$ profit made by a jeweller selling earrings at €24 per pair. At what price per pair should they be sold to make a profit of 20%? € _____
(Give answer to the nearest cent.)