



**Maths
Junior Certificate
Higher Level**

**Past Exam Questions on
Percentages and Interest**

Q1 Part (b) 2012 Paper 1

- (b) (i) €900 is invested for two years at 3% per annum compound interest.
✍ Find the value of the investment at the end of the second year.
- (ii) John has a gross weekly wage of €600.
After tax his net weekly wage is €554.
✍ Calculate his tax credits if he is taxed at the standard rate of 20%.

Q1 Part (a) 2010 Paper 1

1. (a) The price of a litre of petrol on the 1st of August was €1.20.
The price on the 1st September was €1.17.
✍ Calculate the percentage decrease over this period.



Q1 Part (a) 2009 Paper 1

1. (a) In a school library, 28% of the books are classified as fiction and the remainder as non-fiction.
There are 3240 non-fiction books in the library.
✍ Find the number of books which are classified as fiction.



Q2 Part (b) 2009 Paper 1

- (b) A group of 49 students was asked which fruit each liked.
28 said they liked apples. 25 said they liked pears while 26 said they liked oranges.
8 said they liked all three types of fruit.
17 said they liked pears and oranges. 11 said they liked apples and oranges.
5 said they did not like any of the three types of fruit.

Let x represent those students who liked apples and pears but not oranges.

- (i) ✍ Represent the above information on a Venn diagram.
(ii) ✍ Calculate the value of x .
(iii) ✍ Calculate the percentage of students who liked one type of fruit only.

Give your answer correct to the nearest whole number.



Q2 Part (c) 2009 Paper 1

- (c) Three business partners, Aideen, Brian and Caroline, invest €30 000, €40 000 and €70 000 respectively. At the end of each year, 22.5% of the profit made is placed in reserve and the remainder is divided among the partners in proportion to their investments.
- (i) ✍ Given that in 2007, the profit amounted to €12 880, calculate the amount placed in reserve.
- (ii) ✍ In 2008, Caroline's portion of the profit was €9331. Calculate how much Aideen and Brian each received in 2008.
- (iii) ✍ Calculate the amount placed in reserve in 2008.

Q1 Part (c) 2008 Paper 1

- (c) (i) Walter borrows €5000 for three years at 4% per annum compound interest. He repays €1800 at the end of each of the first two years.
- ~~✍~~ How much must he repay at the end of the third year to clear his loan?
- (ii) Walter wishes to pay off his loan in equal instalments at the end of the first and second year. The rate remains at 4% per annum compound interest.
- ~~✍~~ How much would he need to repay, at the end of each year, to clear his loan after two years? Give your answer correct to the nearest cent.

Q2 Part (c) 2008 Paper 1

- (c) In 2006, the average costs of running a car for the year were as follows:
road tax €485, petrol €1440, servicing €650 and insurance €425.
- (i) ~~✍~~ What was the total cost of running the car in 2006?
- In 2007, the petrol costs went up by 5%, the cost of servicing went up by 15% and the cost of insurance went down by 10%.
- (ii) ~~✍~~ Given that the total running costs increased by 4.6% in 2007, calculate the percentage (%) increase in the road tax for 2007, giving your answer correct to one decimal place.



Q1 Part (b) (ii) 2007 Paper 1

- (ii) ✍ A snowman has a mass of 12 kg.
It melts at a rate of 0.2% of its mass per minute.
What will be the mass of the
snowman after 3 minutes?
Give your answer correct to 2 decimal places.



Q2 Part (a) 2007 Paper 1

2. (a) ✍ An auctioneer sells a house for €830,000. The auctioneer's fee is 1.5% on the first €500,000 and 2.5% on the remainder.
Calculate the auctioneer's fee.




Q2 (b) (ii) 2007 Paper 1

- (ii) ✍ What sum of money invested at 2% per annum compound interest would produce interest of €306.04 after three years?


Q1 Part (a) 2006 Paper 1

1. (a) The price of a DVD increases from €12.50 to €13.75.
✍ Express this increase as a percentage of the original price.



Q1 Part (c) (ii) 2006 Paper 1

- (ii) A sum of money was invested at compound interest for two years.
The interest rate for each year was 5%.
After the two years the sum amounted to €5512.50.
-  Calculate the original sum of money invested.


Q2 Part (a) 2006 Paper 1

2. (a) Derek processed 390 passport applications during the month of July.
He processed 10% fewer applications during the month of August.
-  How many applications did he process in August?

Q2 Part (c) 2006 Paper 1

- (c) (i) A merchant buys tea for €3.29 per kg and then sells it at a profit of 60% of the cost price to a customer in England.
The exchange rate is £1 (sterling) = €1.46.
-  Calculate the selling price of the tea in £ sterling, correct to two decimal places.
- (ii) The exchange rate changes to £1 (sterling) = €1.50. The selling price, in sterling, remains the same.
-  Calculate the merchant's percentage profit in this case, correct to the nearest whole number.

Q2 Part (b) 2005 Paper 1

- (b) (i) There are 25 000 fish in a fish farm.
The number of fish in the farm increases by 40% each year.
 How many fish will be in the farm at the end of 3 years?