C8

Money and finance

CHAPTER ASSIGNMENT · 144 MARKS

Name _____ Class _____ No. _____ Date _____

Answer every question in the space given. You may use a calculator. Give money answers to 2 decimal places and show the formula or multiplier you use.

Practice questions from *Cambridge IGCSE Mathematics Core and Extended* (4th edition), Chapter 8 (Money and finance), for classroom use. The Check yourself and Chapter quiz questions are Guru Jazzy's own.

Exercise 8.1 · Currency conversions

8.1.1 The table shows the exchange rate for €1 into various currencies.

Country	€1 buys
Australia	1.50 Australian dollars (A$)
India	75 rupees
Zimbabwe	412 800 Zimbabwe dollars (ZIM$)
South Africa	15 rand
Turkey	4.0 Turkish lira (L)
Japan	130 yen
Kuwait	0.35 dinar
USA	1.15 US dollars (US$)

Convert the following:

€25 into Australian dollars	€50 into rupees	€20 into Zimbabwean dollars	€300 into rand
€130 into Turkish lira	€40 into yen	€400 into dinar	€150 into US dollars

8.1.2 How many euros does it cost to buy the following:

A$500	200 rupees	ZIM$10 000	500 rand
750 Turkish lira	1200 yen	50 dinar	US$150

Exercise 8.2 · Earnings

8.2.1 Mr Ahmet's gross pay is $188.25. Deductions amount to $33.43. What is his net pay? [1]

8.2.2 Miss Said's basic pay is $128. She earns $36 for overtime and receives a bonus of $18. What is her gross pay? [1]

8.2.3 Mrs Hafar's gross pay is $203. She pays $54 in tax and $18 towards her pension. What is her net pay? [1]

8.2.4 Mr Wong works 35 hours for an hourly rate of $8.30. What is his basic pay? [1]

8.2.5

(a) Miss Martinez works 38 hours for an hourly rate of $4.15. In addition she works 6 hours of overtime at time and a half. What is her total gross pay? [2]

(b) Deductions amount to 32% of her total gross pay. What is her net pay? [2]

8.2.6 Pepe is paid $5.50 for each basket of grapes he picks. One week he picks 25 baskets. How much is he paid? [1]

8.2.7 Maria is paid €5 for every 12 plates that she makes. This is her record for one week. How much is she paid? [2]

Mon	Tues	Wed	Thurs	Fri
240	360	288	192	180

8.2.8 Neo works at home making clothes. The patterns and materials are provided by the company. The table shows the rates she is paid and the number of items she makes in one week:

Item	Rate	Number made
Jacket	25 rand	3
Trousers	11 rand	12
Shirt	13 rand	7
Dress	12 rand	0

(a) What are her gross earnings? [2]

(b) Deductions amount to 15% of gross earnings. What is her net pay? [2]

Exercise 8.3 · Profit and loss

8.3.1 A market trader buys peaches in boxes of 120. He buys 4 boxes at a cost price of $13.20 per box. He sells 425 peaches at 12c each. The rest are ruined. How much profit or loss does he make? [3]

8.3.2 A shopkeeper buys 72 bars of chocolate for $5.76. What is his profit if he sells them for 12c each? [2]

8.3.3 A holiday company charters an aircraft to fly to Malta at a cost of $22 000. It then sells 150 seats at $185 each and a further 35 seats at a 20% discount. Calculate the profit made per seat if the plane has 200 seats. [4]

8.3.4 A car is priced at $7200. The car dealer allows a customer to pay a one-third deposit and 12 payments of $420 per month. How much extra does it cost the customer? [3]

8.3.5 At an auction, a company sells 150 television sets for an average of $65 each. The production cost was $10 000. How much loss did the company make? [2]

Exercise 8.4 · Percentage profit and loss

8.4.1 Find the depreciation of the following cars as a percentage of the cost price. (C.P. = cost price, S.P. = selling price)

(a) VW: C.P. $4500, S.P. $4005 [2]

(b) Rover: C.P. $9200, S.P. $6900 [2]

8.4.2 A company manufactures electrical items for the kitchen. Find the percentage profit on each of the following:

(a) Fridge: C.P. $50, S.P. $65 [2]

(b) Freezer: C.P. $80, S.P. $96 [2]

8.4.3 A developer builds a number of different types of house. Which type gives the developer the largest percentage profit? [4]

Type	C.P.	S.P.
Type A	$40 000	$52 000
Type B	$65 000	$75 000
Type C	$81 000	$108 000

8.4.4 Students in a school organise a disco. The disco company charges $350 hire charge. The students sell 280 tickets at $2.25. What is the percentage profit? [3]

Exercise 8.5 · Simple interest

8.5.1 All rates of interest given here are annual rates. Find the simple interest paid in the following cases:

(a) Principal $300, rate 6%, time 4 years [1]

(b) Principal $750, rate 8%, time 7 years [1]

8.5.2 Calculate how long it will take for the following amounts of interest to be earned at the given rate.

(a) P = \$500, r = 6%, SI = \$150 [2]

(b) P = \$400, r = 9%, SI = \$252 [2]

8.5.3 Calculate the rate of interest per year which will earn the given amount of interest:

(a) Principal \$400, time 4 years, interest \$112 [2]

(b) Principal \$800, time 7 years, interest \$224 [2]

8.5.4 Calculate the principal which will earn the interest below in the given number of years at the given rate:

(a) SI = \$36, time = 3 years, rate = 6% [2]

(b) SI = \$340, time = 5 years, rate = 8% [2]

8.5.5 What rate of interest is paid on a deposit of \$2000 which earns \$400 interest in 5 years? [2]

8.5.6 How long will it take a principal of $350 to earn $56 interest at 8% per year? [2]

8.5.7 A principal of $480 earns $108 interest in 5 years. What rate of interest was being paid? [2]

8.5.8 A principal of $750 becomes a total of $1320 in 8 years. What rate of interest was being paid? [3]

8.5.9 $1500 is invested for 6 years at 3.5% per year. What is the interest earned? [2]

8.5.10 $500 is invested for 11 years and becomes $830 in total. What rate of interest was being paid? [3]

Exercise 8.6 · Compound interest

8.6.1 Using the formula for compound interest or otherwise, calculate the following: A shipping company borrows $70 million at 5% p.a. compound interest to build a new cruise ship. If it repays the debt after 3 years, how much interest will the company pay? [3]

8.6.2 A woman borrows $100 000 for home improvements. The compound interest rate is 15% p.a. and she repays it in full after 3 years. How much interest will she pay? [3]

8.6.3 A man owes $5000 on his credit cards. The APR is 20%. If he doesn't repay any of the debt, how much will he owe after 4 years? [3]

8.6.4 A school increases its intake by 10% each year. If it starts with 1000 students, how many will it have at the beginning of the fourth year of expansion? [3]

8.6.5 8 million tonnes of fish were caught in the North Sea in 2012. If the catch is reduced by 20% each year for 4 years, what weight is caught at the end of this time? [3]

8.6.6 How many years will it take for a debt to double at 42% p.a. compound interest? [3]

8.6.7 How many years will it take for a debt to double at 15% p.a. compound interest? [3]

8.6.8 A car loses value at a rate of 27% each year. How long will it take for its value to halve? [3]

Student assessment 1

SA1.1 A visitor from Hong Kong receives 13.5 Pakistani rupees for each Hong Kong dollar.

(a) How many Pakistani rupees would he get for HK$240? [1]

(b) How many Hong Kong dollars does it cost for 1 thousand rupees? [2]

SA1.2 Below is a currency conversion table showing the amount of foreign currency received for 1 euro.

Country	€1 buys
New Zealand	1.60 dollars (NZ$)
Brazil	3.70 reals

(a) How many euros does it cost for NZ$1000? [2]

(b) How many euros does it cost for 500 Brazilian reals? [2]

SA1.3 A girl works in a shop on Saturdays for 8.5 hours. She is paid $3.60 per hour. What is her gross pay for 4 weeks' work? [2]

SA1.4 A potter makes cups and saucers in a factory. He is paid $1.44 per batch of cups and $1.20 per batch of saucers. What is his gross pay if he makes 9 batches of cups and 11 batches of saucers in one day? [2]

SA1.5 Calculate the missing numbers from the simple interest table below:

Principal ($)	Rate (%)	Time (years)	Interest ($)
300	6	4	a
250	b	3	60
480	5	c	96
650	d	8	390
e	3.75	4	187.50

Student assessment 2

SA2.1 Find the simple interest paid on the following principal sums P, deposited in a savings account for t years at a fixed rate of interest of r%:

(a) P = $550, t = 5 years, r = 3% [1]

(b) P = $8000, t = 10 years, r = 6% [1]

(c) P = $12 500, t = 7 years, r = 2.5% [1]

SA2.2 A sum of $25 000 is deposited in a bank. After 8 years, the simple interest gained was $7000. Calculate the annual rate of interest on the account assuming it remained constant over the 8 years. [2]

SA2.3 A bank lends a business $250 000. The annual rate of interest is 8.4%. When paying back the loan, the business pays an amount of $105 000 in simple interest. Calculate the number of years the business took out the loan for. [2]

SA2.4 Find the compound interest paid on the following principal sums P, deposited in a savings account for n years at a fixed rate of interest of r%:

(a) P = $400, n = 2 years, r = 3% [2]

(b) P = $5000, n = 8 years, r = 6% [2]

(c) P = $18 000, n = 10 years, r = 4.5% [2]

SA2.5 A car is bought for $12 500. Its value depreciates by 15% per year.

(a) Calculate its value after:

(i) 1 year [1]

(ii) 2 years [2]

(b) After how many years will the car be worth less than $1000? [3]

SA2.6 A family house was bought for $48 000 twelve years ago. It is now valued at $120 000. What is the average annual increase in the value of the house? [3]

SA2.7 An electrician bought five broken washing machines for $550. He repaired them and sold them for $143 each. What was his percentage profit? [3]

Check yourself

1 Explain why you multiply by the exchange rate to change euros into a foreign currency, but divide to change back. [2]

2 Amir earns $10 an hour. He works 4 hours at double time and 4 hours at time and a half. Which pays him more, and by how much? [2]

3 A trader buys a bag for $80 and sells it for $100. A friend says the profit is 20%. Explain the mistake and give the correct percentage profit. [2]

4 $1000 is invested at 5% for 3 years. Work out the simple interest and the compound interest. Explain why they are different. [4]

5 Why does a multiplier of 0.85 show a value falling by 15% each year? [2]

Chapter quiz

Q1 €1 buys A$1.50. How many Australian dollars do you get for €60?

A	B	C	D
A$40	A$61.50	A$90	A$150

Q2 €1 buys 130 yen. How many euros does 3900 yen cost?

A	B	C	D
€30	€3	€300	€507 000

Q3 Gross pay is $420 and deductions are $95. What is the net pay?

A	B	C	D
$315	$325	$515	$95

Q4 The basic rate is $8 an hour. What is one hour of overtime at time and a half?

A	B	C	D
$8.50	$9.50	$16	$12

Q5 In piece work, an employee is paid according to...

A	B	C	D
the hours worked	the number of items made	the years of service	the profit on sales

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Q6 An item costs $50 and sells for $65. What is the percentage profit?

A	B	C	D
15%	23%	30%	65%

Q7 A car bought for $9200 is sold for $6900. What is the percentage loss?

A	B	C	D
25%	33.3%	75%	23%

Q8 What is the simple interest on $300 at 6% per year for 4 years?

A	B	C	D
$18	$72	$78.74	$372

Q9 $500 earns $150 simple interest at 6% per year. How many years is that?

A	B	C	D
3	6	9	5

Q10 Which multiplier adds 4% each year?

A	B	C	D
0.04	0.96	1.04	1.4

Q11 $1000 is invested at 10% compound interest for 2 years. What is the total amount?

A	B	C	D
$1200	$1210	$1100	$1020

Q12 A car loses 15% of its value each year. What is the multiplier for one year?

A	B	C	D
1.15	0.015	0.85	0.15

End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/o-level-mathematics/chapter-8-money-and-finance/