UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

5796901446

COMMERCIAL STUDIES **7101/02**

Paper 2 Arithmetic **October/November 2013**

2 hours

Candidates answer on the Question Paper.

Additional Materials: Ruler

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces provided above.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions in **Section A** and any **two** questions from **Section B**.

All working must be clearly shown in the space provided and should be done on the same sheet as the rest of the answer.
The businesses described in this Question Paper are entirely fictitious.
You may use a calculator in this examination.
N.B. £1 = 100p.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **12** printed pages.

DC (LEG/JG) 65456/3

UNIVERSITY *of* CAMBRIDGE International Examinations

Section A (76 marks)

Answer **all** questions in this section.

For Examiner's Use

1 Calculate

(a) $6 \times 6 + 4 \times 4 - 8 \times 8$,

Answer (a) .... [3]

(b) $46.1 - 9.5 \times 3.8$,

Answer (b) .... [3]

(c) $\dfrac{1\frac{1}{2} + 1\frac{1}{3}}{1\frac{1}{2} - 1\frac{1}{3}}$.

Answer (c) .... [3]

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2 Calculate

(a) $0.75 \div 1.85$ giving your answer correct to 2 decimal places,

Answer (a) .... [2]

(b) $0.75 \div 1.85$ giving your answer as a fraction in its simplest form,

Answer (b) .... [2]

(c) 0.75 as a percentage of 1.85 giving your answer correct to 2 significant figures.

Answer (c) .... % [3]

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3 Find

(a) 125% as a fraction in its lowest terms,

Answer (a) .... [2]

(b) 14% of $6200,

Answer (b) $ .... [2]

(c) the percentage decrease when the price of an item falls from $6 to $5.52,

Answer (c) .... % [3]

(d) the simple interest on an investment of $40 000 for 3 years at 2.8% a year.

Answer (d) $ .... [3]

4 **(a)** The Hightown Co-operative buys goods for its members.

In 2012 the cost of the goods was £88 000 and these were sold for £105 600.

Expenses of £9600 were deducted from the profit and the remainder of the money was paid back to the members in proportion to their expenditure.

How much did a member who spent £660 receive?

For Examiner's Use

Answer (a) £ .... [6]

(b) A UK investor bought rands to the value of £10 000 when the exchange rate was £1 = R10.9369.

He then sold the rands the next day when the exchange rate was £1 = R10.2029.

In addition he was charged commission.
On the first transaction the commission was charged at 2%.
On the second transaction the commission was charged at 3%.

How much profit did the investor make? Give your answer in pounds (£).

Answer (b) £ .... [8]

For Examiner's Use

5 **(a)** A company borrows \$20 000 over 3 years at 4.2% per annum compound interest.

The loan and the interest have to be repaid over the 3 years in equal monthly instalments.

Calculate the monthly instalments.

Answer (a) \$ .... [6]

(b) A wholesaler supplied goods to a shop and agreed the following repayment schedule.

Date	Amount (\$)
May 4	2600
May 8	2600
May 21	3200
May 30	1200

Calculate the date on which a single payment would be equitable.

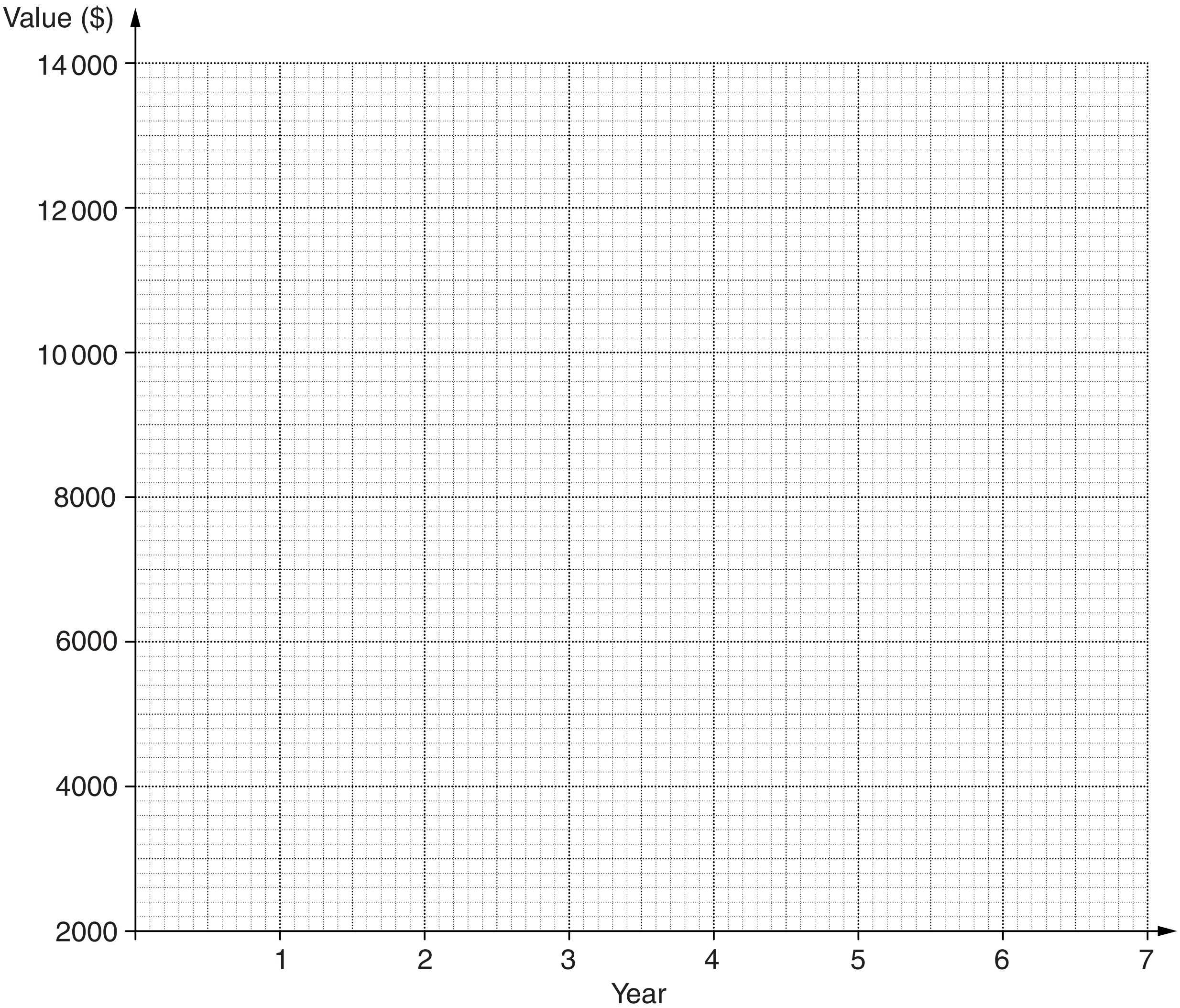
Answer (b) .... [6]

For Examiner's Use

6 A car cost $12 500 new and it depreciated in value over seven years as shown in the table.

End of Year	1	2	3	4	5	6	7
Value $	7500	6000	5400	4800	4400	4000	3800

(a) On the grid draw a graph to show this depreciation.



[4]

(b) Use your graph to estimate the value of the car after 6 months.

Answer (b) $ .... [2]

For Examiner's Use

(c) Calculate the depreciation in the first year.

Answer (c) $ .... [2]

(d) Calculate the percentage depreciation over the 7 years.

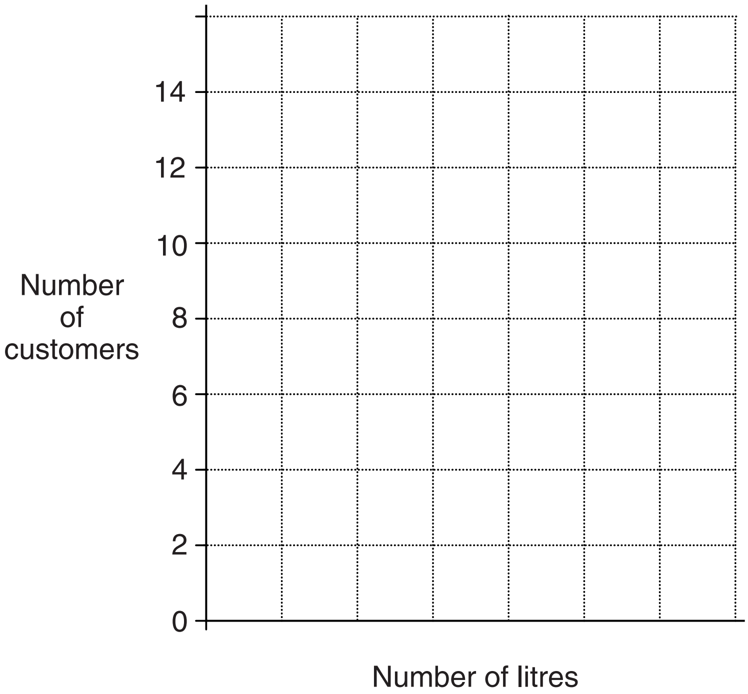
Answer (d) .... % [4]

For Examiner's Use

7 A garage sold the following amounts of fuel to 50 customers.

Amount of fuel in litres	15	20	25	30	35	40
Number of customers	12	10	14	4	2	8

(a) Draw a bar chart to show these sales.



[4]

(b) Calculate the total number of litres sold.

Answer (b) .... litres [4]

(c) The fuel is sold at $1.40 a litre. Calculate the total income from the sales.

Answer (c) $ .... [2]

(d) The garage makes a profit of 5% on sales of fuel. Calculate the profit made on these sales.

Answer (d) $ .... [2]

Section B (24 marks)

Answer any **two** questions from this section.

For Examiner's Use

8 A car hire company at Johannesburg airport has the following opening hours.

Day	Opens	Closes
Monday to Friday	0800	2300
Saturday	0800	2200
Sunday	0900	1600

(a) How many hours is the company open in one week?

Answer (a) .... hours [5]

(b) Mr and Mrs Ng hire a car for 5 days.

(i) The daily rate for the car is 200 rand. There is a discount of 20% on the total cost for a rental period of more than 4 days.

What is the total price of the rental?

Answer (b)(i) .... rand [4]

(ii) Sales Tax at 14% is added to the total price of the rental.

Calculate how much Mr and Mrs Ng pay.

Answer (b)(ii) .... rand [3]

For Examiner's Use

9 Airline passengers on a flight from Durban to Sikhuphe airport in Swaziland each have a luggage allowance of 20 kg.

The weight of the luggage of the 40 passengers boarding a flight was recorded as shown in the table.

Weight (kg)	16	17	18	19	20	21
Number of passengers	5	5	6	7	15	2

(a) State the mode.

Answer (a) .... kg [1]

(b) Work out the median.

Answer (b) .... kg [2]

(c) Calculate the mean.

Answer (c) .... kg [4]

(d) Passengers with luggage in excess of 20 kg have to pay an extra charge.

What percentage of passengers did **not** have to pay this extra charge?

Answer (d) .... % [5]

For Examiner's Use

10 (a) Air Passenger Tax (APT) increases in line with the Retail Price Index (RPI).

(i) In 2008 the APT was 21 euros and the RPI was 105.

Calculate how much the APT was in 2010 when the RPI was 110.

Answer (a)(i) .... euros [2]

(ii) In 2012 the APT was 24 euros.

Calculate the RPI.

Answer (a)(ii) .... [2]

(b) Amira, Kristina and Vreni own a company and agree to take profits after tax and expenses in the ratio of their original capital investment 2:3:5. They each take an annual salary of $10 000 before the distribution of the profit.

In 2012 the company had a turnover of $250 000.
Trading expenses were $80 000 plus the salaries.
Tax on the remainder was charged at 20%.

Calculate the total income for each partner.

Answer (b) Amira $ ....

Kristina $ ....

Vreni $ .... [8]

11 **(a)** An investor purchased 5000 shares in an Internet company.

The shares cost 27.5p each and the stockbroker charged 2% commission.

(i) Calculate the total cost to the investor in pounds (£).

Answer (a)(i) £ .... [4]

(ii) The company declared a dividend at the end of the year and the investor received £84.15.

Calculate the dividend paid per share.

Answer (a)(ii) .... p [2]

(iii) The investor then sold his shares.

He paid commission of 1% on the sale and received £1806.75.

Calculate the price per share when he sold them.

Answer (a)(iii) .... p [3]

(b) Government $6\frac{3}{4}$% stock is priced at $95\frac{1}{2}$.

How much stock can the investor buy for £2865?

Answer (b) .... [3]

