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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

COMMERCIAL STUDIES **7101/02**

Paper 2 Arithmetic **October/November 2009**

2 hours

Candidates answer on the Question Paper.
Additional Materials: Mathematical tables.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces above.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams or graphs.
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. It should be shown in the space below each question.
The businesses described in this question paper are entirely fictitious.
You may use a calculator in this examination.
N.B. £1 = 100p

The number of marks is given in brackets [ ] at the end of each question or part question.

For Examiner's Use

Section A (76 marks)

Answer **all** questions in this section.

1 Calculate

(a) $3\frac{1}{8} + 1\frac{1}{2} \times 2\frac{1}{4}$,

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

(b) 17½ % of \$56,

Answer (b) \$ ..... [3]

(c) 1.08 × 1.08 × 1.08, giving your answer correct to 2 decimal places.

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

2 **(a)** Convert 0.065 to a fraction in its lowest terms.

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

(b) Change 50 ounces into pounds(lb) and ounces(oz).

Answer (b) ..... lb ..... oz [3]

(c) Convert 25 litres into gallons, correct to the nearest gallon.
(1 gallon = 4.54 litres)

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

3 A hotel has 40 rooms which can accommodate either one or two persons and charg
following rates per day.

Date	1 person $	2 persons $
Jan 1 to Apr 30	40	44.50
May 1 to Aug 31	60	67.50
Sep 1 to Nov 30	50	54.50
Dec 1 to Dec 31	60	67.50

(a) On the 8th June there are 2 persons in each of the rooms.

Calculate the income for the hotel for the day.

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

(b) What is the **least** income for the hotel if all the rooms are occupied on the 2nd September?

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

(c) In the first seven days of December, 10 rooms are occupied by 1 person and 30 rooms are occupied by 2 persons.

Calculate the income for the hotel for the seven days.

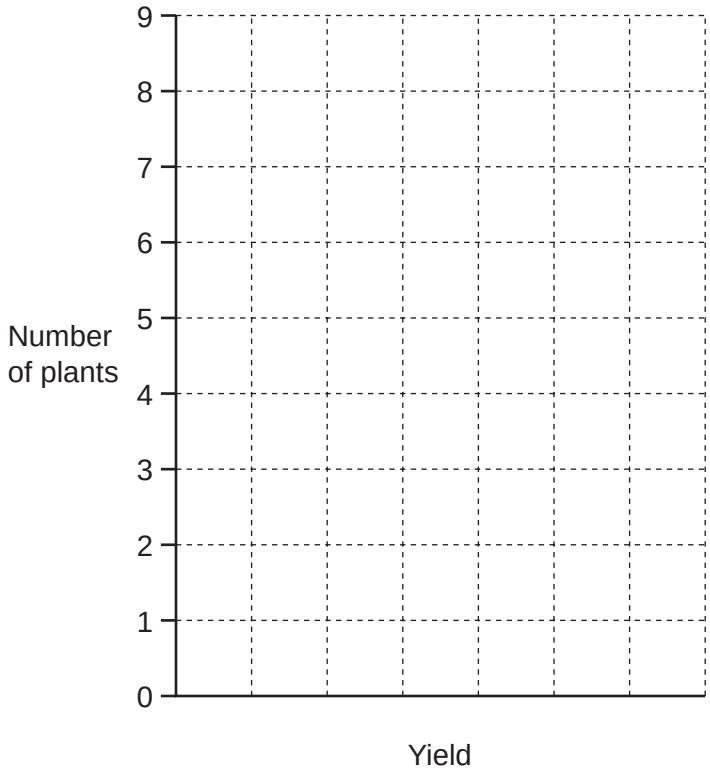
Answer (c) $ ..... [5]

4 A gardener has a small plot of land where he grows potatoes.

The yield (number of potatoes per plant) for 2008 was as shown in the table.

Yield	5	6	7	8	9	10
Number of plants	7	4	9	7	8	8

(a) Draw on the grid a bar chart to show these results.



[4]

(b) Find the median yield.

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

(c) Calculate the total number of potatoes produced.

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

(d) Calculate the mean yield.

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

5 **(a)** A supermarket has a turnover of $1 380 000 in a year.

The total cost of the stock is $566 480 and the expenses are $700 000.

Calculate the net profit as a percentage of the turnover.

Answer (a) ..... % [6]

(b) The supermarket orders 2000 boxes of bananas from a supplier at $5.60 a box.

The supplier has expenses of 61% of the price of the bananas.

How much profit does the supplier make?

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

(c) The supermarket sells the bananas at $6.10 a box.

What is the total profit made by the supermarket?

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

6 **(a)** A company increases its wages in line with the Retail Price Index (RPI).
The base value of the index was 100 in the year 2006 when its wages bill £129 600.

Calculate

(i) the wages bill in 2008 when the RPI was 107.

Answer (a) (i) £ ..... [3]

(ii) the RPI in 2009 when the wages bill was £149 040.

Answer (a) (ii) ..... [3]

(b) Calculate the gross annual income received when £16 800 is invested in 5.15% Government stock at 84.

Answer (b) £ ..... [4]

7 **(a)** A shop has the following opening hours:

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Open	0730	0730	0730	0730	0730	0800	0900
Close	1730	1230	1730	1230	1730	1730	1200

Calculate the number of hours that the shop is open in the week.

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

(b) The shop sells newspapers. The number of newspapers sold in the week are:

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Number sold	108	105	110	120	130	100	50

Calculate the total number of newspapers sold during the week.

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

(c) The shop buys the newspapers from a wholesaler at 50p each and sells them for 60p each.

Calculate

(i) the total profit,

Answer (c) (i) £ ..... [2]

(ii) the profit as a percentage of the cost.

Answer (c) (ii) ..... % [2]

Section B (24 marks)

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

8 **(a)** A fencing company bought timber from a supplier on credit as follows:

March 2	$8000
March 12	$5100
March 24	$6200
March 31	$6000
April 9	$4700

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

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

(b) The fencing company made a profit of 28% when it sold all the timber as fences.

Calculate its gross income.

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

(c) The fencing company charged customers $20 a metre to make the fences.

How many kilometres of fencing did it make from all the timber?

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

9 **(a)** The Orion Bank offers an account for investors with an annual percentage intere
as follows:

Year 1	6% + 1% start up bonus
Year 2	6%
Year 3	6%
Year 4	6%

Interest is paid at the end of each year but is added to the account.

Calculate how much an investor will receive at the end of 4 years if the initial investment is $5000.

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

(b) The bank also has a savings account which requires an investor to pay a fixed amount each month for 4 years. At the end of this time the investor will receive 3.8% a year Simple Interest on the total sum saved in the 4 years.

Calculate the final amount the investor will have if she invests $50 a month.

Answer (b) $ ..... [6]

10 **(a)** Copper was priced at $6360 per tonne in a market dealing in metals.

Calculate the price of a kilogram.

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

(b) A speculator bought 30 tonnes of copper and later sold it at $7150 per tonne. Commission charges amounted to 4% of the selling price for the transactions.

Calculate the profit made by the speculator.

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

(c) The speculator decided to invest $15 700 of her money by buying shares in an IT company. The shares were priced at 52½ cents a share. She sold the shares two weeks later at 54 cents a share. The broker charged a flat rate fee of $300 for the two transactions.

(i) How many shares did the speculator buy?

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

(ii) How much profit did the speculator make?

Answer (c) (ii) $ ..... [4]

11 **(a)** A trader purchases 6000 articles and he has the choice of buying and storing either in Paris or London.

The price in London is £5.75 and the storage charge is 50p per article.
The price in Paris is 10.07 euros and the storage charge is 0.60 euros per article.

What is the total cost of the purchase in £ (pounds)?

(i) in London.

Answer (a) (i) £ ..... [3]

(ii) in Paris when the exchange rate is 1 euro = £0.7125.

Answer (a) (ii) £ ..... [4]

(b) The trader buys the 6000 articles in London without storing them and freights them to Paris where he sells them. Freight costs are 40p per article and the exchange rate remains the same.

At what price, in euros, must he sell them to make a profit of 10%?

Answer (b) ..... euros [5]