CAMBRIDGE INTERNATIONAL EXAMINATIONS
Joint Examination for the School Certificate
and General Certificate of Education Ordinary Level

COMMERCIAL STUDIES   **7101/2**
PAPER 2 Arithmetic

              OCTOBER/NOVEMBER SESSION 2002
                              2 hours

Additional materials:
    Answer paper
    Graph paper (2 sheets)
    Mathematical tables

TIME   2 hours

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces provided on the answer paper/answer booklet.

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

Write your answers on the separate answer paper provided.

If you use more than one sheet of paper, fasten the sheets together.

All working must be clearly shown. It should be done on the same sheet as the rest of the answer.

INFORMATION FOR CANDIDATES

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

The businesses mentioned in the questions are entirely fictitious.

You may use a calculator in this examination.

N.B. £1 = 100p

This question paper consists of 5 printed pages and 3 blank pages.

Section A (76 marks)

Answer **all** questions in this section.
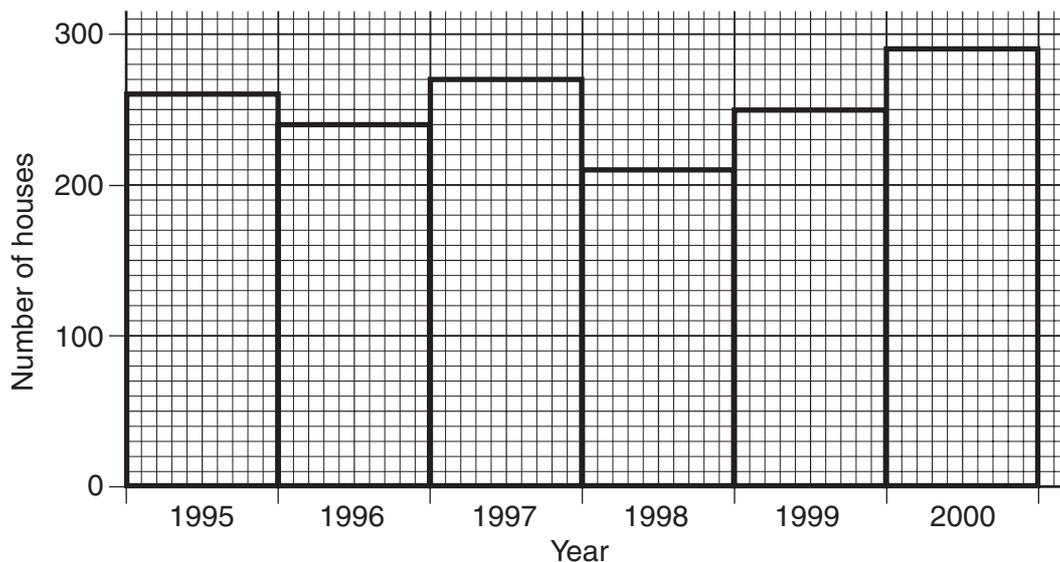
1   Calculate

(a) 4.8% of £682 correct to the nearest penny,   [3]

(b) the number of 750 millilitre bottles of water that can be filled from a tank holding 150 litres of water,   [3]

(c) 7 hours 30 minutes as a fraction of 24 hours. Give your answer in lowest terms.   [3]

2   Calculate

(a) $\frac{3}{4}$ of $2\frac{1}{2} - \frac{1}{4}$,   [3]

(b) the amount of simple interest earned by investing $14 000 for 6 months at $5\frac{1}{2}$% per annum,   [3]

(c) 680 as a percentage of 16 000.   [3]

3   **(a)** A supermarket opens each week from 0830 to 2200 hours from Monday to Saturday inclusive and from 0915 to 1600 hours on Sunday.

For how many hours each week is the supermarket open?   [5]

(b) The bar chart shows the numbers of houses built by a construction company in the years 1995 to 2000 inclusive.

Calculate the mean number of houses built per year during that period.   [5]

4 **(a)** In a sale, a retailer reduces the price of a jacket from $125 to $85. If all the re̶̶̶̶̶ ̶̶̶s̶ are reduced in the same proportion, calculate

   (i) the sale price of a pair of trousers normally sold for $64,

   (ii) the normal price of a pair of shoes offered in the sale for $34.

(b) By selling a stereo system for $312, a retailer makes a profit on cost price of 30%.

   Calculate

   (i) the cost price, [3]

   (ii) the profit as a percentage of selling price. [3]

5 **(a)** A company trades in Zimbabwe, Swaziland and Lesotho. The ratio of the value of sales, in US dollars, in each area is 5 : 6 : 3.

   Calculate

   (i) the value of sales in Lesotho when the value of sales in Zimbabwe was $1 126 000, [3]

   (ii) the total value of sales when the value of sales in Swaziland was $2 004 000. [3]

(b) The company employs 252 agents.

   Three times as many of the agents are employed in Zimbabwe as in Lesotho. The number employed in Swaziland is twice the total number employed in Zimbabwe and Lesotho.

   Calculate the number of agents employed in Lesotho. [6]

6 **(a)** An insurance company charges annual premiums for property insurance as follows.

      Buildings   £27.50 per £10 000 insured

      Contents   £3.90 per £1000 insured

   Calculate the total premium payable to insure buildings valued at £180 000 and contents valued at £36 400. [6]

(b) A retailer ordered 50 packs of pencils at £4.20 per pack. The order was subject to a trade discount of 15% and a cash discount of 1% for payment within seven days. Calculate how much the retailer paid for the order if payment was made within seven days. [6]

7 **(a)** A British businessman visited Singapore. He changed £1200 to Singapore dolla   e of 2.69 Singapore dollars to the £ and was charged commission of $1\frac{1}{2}$%.

   (i) Calculate the amount in Singapore dollars received by the businessman.

At the end of his visit, the businessman was left with 650 Singapore dollars which he change   to £ sterling at the rate of 2.82 Singapore dollars to the £, with no commission charged.

   (ii) Calculate the amount, in £ sterling, received by the businessman. [2]

(b) A retail company has an annual turnover of £1 212 000 on purchases of £402 110. The company incurs overhead expenses as follows.

Rent	£46 000
Salaries	£310 000
Advertising	£226 000
General expenses	£36 000

Calculate

   (i) the company's gross profit, [2]

   (ii) the net profit as a percentage of turnover. [4]

Section B   (24 marks)

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

8   An item of equipment bought new by a company for $15 500 depreciates each year as shown in the table.

Value when new	Value after				
	1 year	2 years	3 years	4 years	5 years
$15 500	10 600	7980	6400	5300	4600

(a)   Calculate the annual percentage rate of depreciation, correct to the nearest whole percentage

(i)   during the first year,   [3]

(ii)   during the fourth year.   [3]

(b)   (i)   Plot on graph paper a suitable graph to show the information in the table.   [4]

(ii)   Use your graph to estimate the value of the equipment after $2\frac{1}{2}$ years.   [2]

9   (a)   An investor bought 2000 shares in a chemical company when the share price was £6.24. The investor was charged $1\frac{1}{2}$% commission by the stockbroker.

Calculate the total cost to the investor of buying the shares.   [6]

(b)   The company declared a dividend of 8.6p per share.

Calculate

(i)   the dividend received by the investor,   [2]

(ii)   the dividend as a percentage of share price,   [2]

(iii)   the percentage rate of return on the investor's total outlay on the shares.   [2]

10   (a)   A bank customer deposited $15 000 for 4 years at a fixed rate of interest of 5% per annum compound.

Calculate the total amount of the investment at the end of the 4 years.   [6]

(b)   Based on a base year of 1990 = 100, the Index of Retail Prices was 165 in the year 2000 and 176 in the year 2001.

A sales representative was paid an annual salary of $27 000 in 2000.

Calculate the percentage increase in the representative's salary required for the 2001 salary to maintain its 2000 buying power.   [6]

11   (a)   A market trader bought 4000 plates for £3000. Find the price at which she should mark each plate if she wishes to make a profit of 20% on the cost price after allowing customers a 10% discount on the marked price.   [6]

(b)   The trader actually sold a number of the plates for £1 each and the remainder for 70p each and made a total profit of £370.

Calculate the number of plates she sold for £1 each.   [6]

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