MEGA LECTURE

Finance Problems

Question Paper 2

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Finance Problems
Booklet	Question Paper 2

Time Allowed: 60 minutes

Score: /50

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1 **(a)** Luc is painting the doors in his house.
He uses $\frac{3}{4}$ of a tin of paint for each door.

Work out the least number of tins of paint Luc needs to paint 7 doors.

Answer(a) .... [3]

(b) Jan buys tins of paint for $17.16 each.
He sells the paint at a profit of 25%.

For how much does Jan sell each tin of paint?

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

(c) The cost of $17.16 for each tin of paint is 4% more than the cost in the previous year.

Work out the cost of each tin of paint in the previous year.

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

(d) In America a tin of paint costs $17.16 .
In Italy the same tin of paint costs €13.32 .
The exchange rate is $1 = €0.72 .

Calculate, in dollars, the difference in the cost of the tin of paint.

(e) Paint is sold in cylindrical tins of height 11 cm.
Each tin holds 750 ml of paint.

   (i) Write 750 ml in cm^3.

Answer(e)(i) .... cm^3 [1]

   (ii) Calculate the radius of the tin.
   Give your answer correct to 1 decimal place.

Answer(e)(ii) .... cm [3]

   (iii) A mathematically similar tin has a height of 22 cm.

   How many **litres** of paint does this tin hold?

Answer(e)(iii) .... litres [2]

(f) The mass of a tin of paint is 890 grams, correct to the nearest 10 grams.

Work out the upper bound of the total mass of 10 tins of paint.

Answer(f) .... g [1]

(g) The probability that a tin of paint is dented is 0.07 .

Out of 3000 tins of paint, how many would you expect to be dented?

Answer(g) .... [2]

(h) Tins of paint are filled at the rate of $2 m^3$ per minute.

How many 750 ml tins of paint can be filled in 1 hour?

2 Jane and Kate share $240 in the ratio 5 : 7 .

(a) Show that Kate receives $140.

Answer(a)

[2]

(b) Jane and Kate each spend $20.

Find the new ratio Jane's remaining money : Kate's remaining money.
Give your answer in its simplest form.

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

(c) Kate invests $120 for 5 years at 4% per year simple interest.

Calculate the total amount Kate has after 5 years.

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

(d) Jane invests $80 for 3 years at 4% per year compound interest.

Calculate the total amount Jane has after 3 years.
Give your answer correct to the nearest cent.

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

(e) An investment of $200 for 2 years at 4% per year compound interest is the same as an investment of $200 for 2 years at r% per year simple interest.

Find the value of r.

Answer(e) r = ... [3]

3 Emily invests $$x$ at a rate of 3% per year simple interest.
After 5 years she has $20.10 interest.

Find the value of x.

Answer x = ... [3]

4 Pam wins the student of the year award in New Zealand.
She sends three photographs of the award ceremony by post to her relatives.

- one of size 13 cm by 23 cm to her uncle in Australia
- one of size 15 cm by 23 cm to her sister in China
- one of size 23 cm by 35 cm to her mother in the UK

Maximum lengths	Australia	Rest of the world
13 cm by 23.5 cm	$1.90	$2.50
15.5 cm by 23.5 cm	$2.40	$2.90
23 cm by 32.5 cm	$2.80	$3.40
26 cm by 38.5 cm	$3.60	$5.20

The cost of postage is shown in the table above.
Use this information to calculate the total cost.

Answer $ .... [3]

5 David sells fruit at the market.

(a) In one week, David sells 120 kg of tomatoes and 80 kg of grapes.

(i) Write 80 kg as a fraction of the total mass of tomatoes and grapes.
Give your answer in its lowest terms.

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

(ii) Write down the ratio   mass of tomatoes : mass of grapes.
Give your answer in its simplest form.

Answer(a)(ii) .... : .... [1]

(b) **(i)** One day he sells 28 kg of oranges at \$1.56 per kilogram.
He also sells 35 kg of apples.
The total he receives from selling the oranges and the apples is \$86.38 .

Calculate the price of 1 kilogram of apples.

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

(ii) The price of 1 kilogram of oranges is \$1.56 .
This is 20% more than the price two weeks ago.

Calculate the price two weeks ago.

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

(c) On another day, David received a total of \$667 from all the fruit he sold.
The cost of the fruit was \$314.20 .
David worked for $10\frac{1}{2}$ hours on this day.

Calculate David's rate of profit in dollars per hour.