E1.16 Finance Problems

Question Paper

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Level	Core
Topic	E1. Number
Sub-Topic	E1.16 Finance Problems
Booklet	Question Paper

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   Paul and Mary go on a 14 night cruise in the Mediterranean.

   (a)   The price of the cruise is $237 per person per night.
   A tax of 6% is added to this price.

   Find the total amount Paul and Mary pay for this cruise.

   $.. [3]

   (b)   At a port Mary buys 2 bottles of sun cream.
   Each bottle costs $7.89 .

   Work out the change she receives from $20.

   $.. [2]

   (c)   Paul and Mary leave the ship at 09 23 to tour Pisa.
   The tour lasts for $6\frac{3}{4}$ hours.

   Find the time when the tour finishes.

   .... [2]

   (d)   The ship leaves at 18 40 to sail to the next port.
   It sails 270 km at an average speed of 32.4 km/h.

   Find the time when the ship arrives.

   .... [3]

(e) There are 1800 passengers on the ship.
They are in the ratio   males : females = 5 : 4.
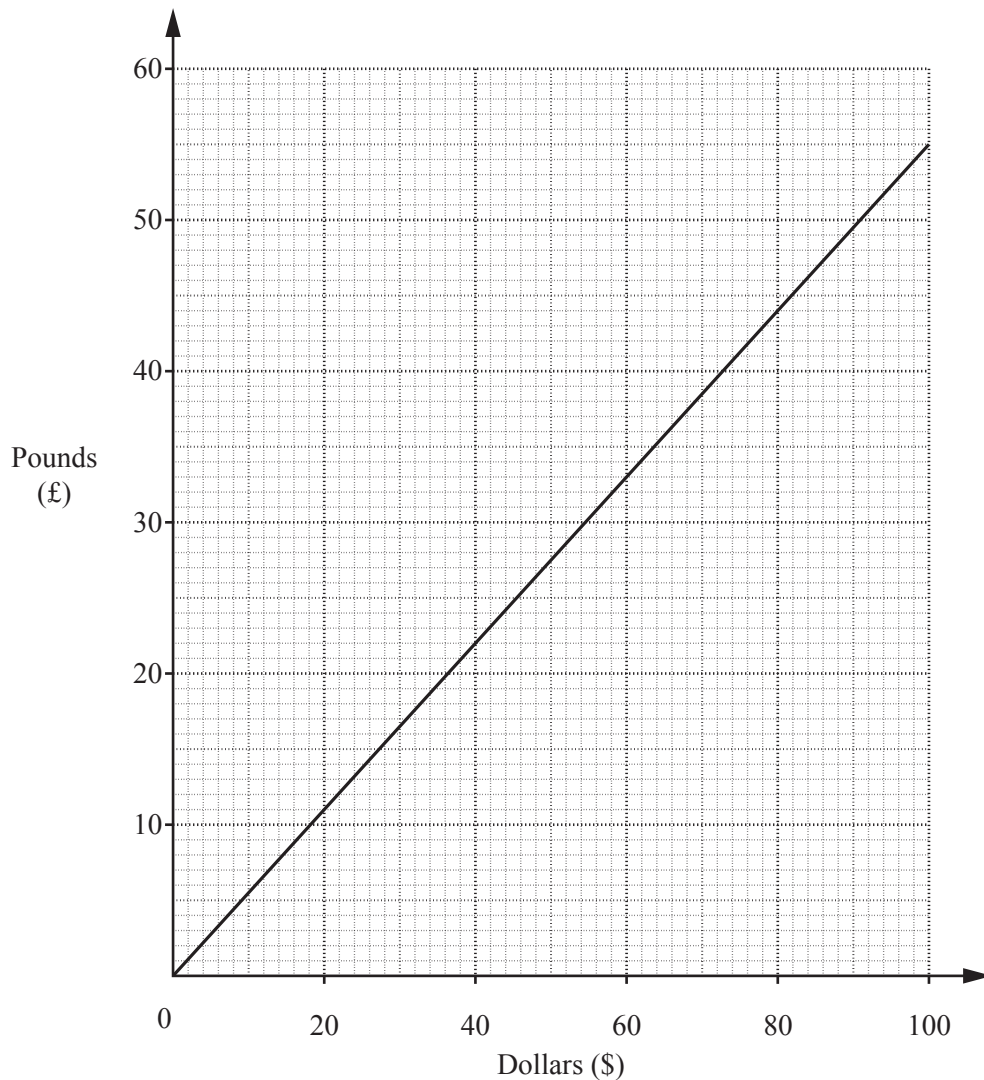
Work out the number of male passengers.

.... [2]

2   Sonia earns $8.12 for each hour she works.
She works for 35 hours each week.

Work out how much she earns each week.

$.. [1]

3   This is a graph for converting between dollars ($) and pounds (£).

Pounds
(£)

Dollars ($)

(a) Use the graph to convert $80 to pounds.

£.. [1]

(b) Daniyar changes £100 to dollars.

Work out how many dollars he receives.

$.. [2]

4 Apples cost $1.12 for each kilogram.

Calculate the cost of 4.5 kilograms of apples.

$.. [1]

5 **(a)** A farmer has 45 horses and 20 cows.

(i) Write this as a ratio   horses : cows.
Give your answer in its simplest form.

.... : .... [1]

(ii) The farmer wants the ratio   horses : cows   to equal 5 : 3.
He keeps his 45 horses but buys some more cows.

Work out the number of cows he must buy.

.... [2]

(b) Three years ago the farmer invested $3750 at a rate of 4% per year compound interest.

   (i) Calculate the total value of his investment after the 3 years.

$.. [3]

   (ii) The farmer wants to spend his investment on buying goats.
     Goats cost $126 each.

     Work out the maximum number of goats he can buy **and** how much money is left over.

Number of goats ....

Amount of money left over $.. [4]

(c) The farmer grows carrots.
In 2014 the selling price for carrots was $96 per tonne.
In 2015 this selling price increased by 18%.

Work out the increase in the selling price from 2014 to 2015.

$.. [1]

(d) The farmer has 20 female sheep.
Each sheep has 0, 1, 2 or 3 lambs.
The table shows this information.

Number of lambs	Number of sheep
0	1
1	4
2	12
3	3

(i) Calculate the mean number of lambs per sheep.

.... [3]

(ii) The farmer takes 1 lamb away from each of the sheep with 3 lambs.
These lambs are given to 3 of the 4 sheep that have 1 lamb.

Complete the table after the farmer has done this.

Number of lambs	Number of sheep
0	
1	
2	
3	0

[2]

(iii) Explain why the mean number of lambs per sheep does not change.

.... [1]

6   Sonia works in a toy shop.

(a) **(i)**   One week she works for 30 hours and is paid $180.

Calculate the amount she is paid per hour.

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

(ii)   The next week Sonia works for 38 hours and is paid $220.

Find the difference in her pay per hour for these two weeks.

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

(b)   The shop sells bags of 40 marbles.
One bag has marbles in the ratio   red : blue : green = 1 : 3 : 4.

(i)   Calculate the number of marbles of each colour.

Answer(b)(i) Red = ... , blue = ... , green = ... [2]

(ii) A second bag of 40 marbles contains 11 red marbles, 9 blue marbles and 20 green marbles.
All the marbles from the two bags are mixed together.

Write down the ratio of marbles   red : blue : green.
Give your answer in its simplest form.

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

(c) Thilo and Toby buy some boats and trains from the toy shop.
The cost of one boat is *b* cents and the cost of one train is *t* cents.

(i) Toby buys 3 boats and 4 trains for $5.70 .

Complete this equation.

$$3b + 4t = \text{..............}$$

[1]

(ii) Thilo buys 1 boat and 2 trains for $2.40 .

Write this information as an equation.

.... = ...

[2]

(iii) Solve your two equations to find the cost of a boat and the cost of a train.
You must show all your working.

Answer(c)(iii) Cost of a boat = ... cents

Cost of a train = ... cents [3]

(d) Train track costs 99 cents per 20 cm.

Calculate the cost of buying 3.4 metres of train track.

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