

Finance Problems

Question Paper 4

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Finance Problems
Booklet	Question Paper 4

Time Allowed: 80 minutes

Score: /66

Percentage: /100

Grade Boundaries:

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

- 1 A school has a sponsored swim in summer and a sponsored walk in winter. In 2010, the school raised a total of \$1380. The ratio of the money raised in summer : winter = 62 : 53.

(a) (i) Show clearly that \$744 was raised by the swim in **summer**.

Answer (a)(i)

[1]

(ii) Alesha’s swim raised \$54.10. Write this as a percentage of \$744.

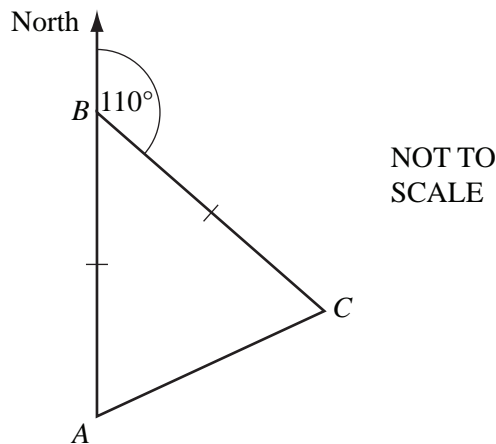
Answer(a)(ii) % [1]

(iii) Bryan’s swim raised \$31.50. He received 75 cents for each length of the pool which he swam.

Calculate the number of lengths Bryan swam.

Answer(a)(iii) [2]

(b) The route for the **sponsored walk in winter** is triangular.



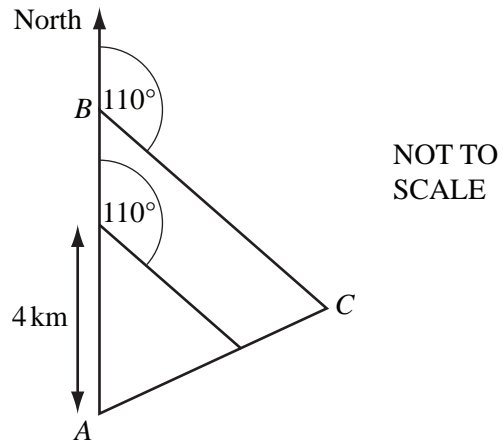
(i) Senior students start at *A*, walk North to *B*, then walk on a bearing 110° to *C*. They then return to *A*.

$AB = BC$.

Calculate the bearing of *A* from *C*.

Answer(b)(i) [3]

(ii)



$AB = BC = 6$ km.

Junior students follow a **similar** path but they only walk 4 km North from A , then 4 km on a bearing 110° before returning to A .

Senior students walk a total of 18.9 km.

Calculate the distance walked by junior students.

Answer(b)(ii) km [3]

(c) The total amount, \$1380, raised in 2010 was 8% **less** than the total amount raised in 2009.

Calculate the total amount raised in 2009.

Answer(c) \$ [3]

2 Reina went on holiday to New Zealand.

(a) She travelled the 65 km from Tokyo to Narita Airport by taxi.

The taxi journey cost 300 yen (¥) per kilometre plus a fixed charge of ¥700.

Calculate the cost of the taxi journey.

Answer(a) ¥ [2]

(b) At Narita Airport, Reina changed ¥71 190 into New Zealand dollars (NZ\$).

The exchange rate was NZ\$1 = ¥56.5.

How many New Zealand dollars did she receive?

Answer(b) NZ\$ [2]

3 Thomas, Ursula and Vanessa share \$200 in the ratio

$$\text{Thomas} : \text{Ursula} : \text{Vanessa} = 3 : 2 : 5.$$

(a) Show that Thomas receives \$60 and Ursula receives \$40.

Answer(a)

[2]

(b) Thomas buys a book for \$21.
What percentage of his \$60 does Thomas have left?

Answer(b) % [2]

(c) Ursula buys a computer game for \$36.80 in a sale.
The sale price is 20% less than the original price.
Calculate the original price of the computer game.

Answer(c) \$ [3]

(d) Vanessa buys some books and some pencils.
Each book costs \$12 **more** than each pencil.
The total cost of 5 books and 2 pencils is \$64.20.
Find the cost of one pencil.

Answer(d) \$ [3]

4 Beatrice has an income of \$40 000 in one year.

(a) She pays:

no tax on the first \$10 000 of her income;

10% tax on the next \$10 000 of her income;

25% tax on the rest of her income.

Calculate

(i) the total amount of tax Beatrice pays,

[2]

(ii) the total amount of tax as a percentage of the \$40 000.

(b) Beatrice pays a yearly rent of \$10 800.

After she has paid her tax, rent and bills, she has \$12 000.

Calculate how much Beatrice spends on bills.

[1]

(c) Beatrice divides the \$12 000 between shopping and saving in the ratio

shopping : saving = 5 : 3.

(i) Calculate how much Beatrice spends on shopping in one year.

[2]

(ii) What fraction of the original \$40 000 does Beatrice **save**?

Give your answer in its lowest terms.

[1]

(d) The rent of \$10 800 is an increase of 25% on her previous rent.

Calculate her previous rent.

[2]

5 Each year a school organises a concert.

(a) (i) In 2004 the cost of organising the concert was \$ 385.

In 2005 the cost was 10% less than in 2004.

Calculate the cost in 2005.

[2]

(ii) The cost of \$ 385 in 2004 was 10% more than the cost in 2003.

Calculate the cost in 2003.

[2]

(b) (i) In 2006 the number of tickets sold was 210.

The ratio

Number of adult tickets : Number of student tickets was 23 : 19.

How many adult tickets were sold?

[2]

(ii) Adult tickets were \$ 2.50 each and student tickets were \$ 1.50 each.

Calculate the **total** amount **received** from selling the tickets.

[2]

(iii) In 2006 the cost of organising the concert was \$ 410.

Calculate the percentage profit in 2006.

[2]

(c) In 2007, the number of tickets sold was again 210.

Adult tickets were \$ 2.60 each and student tickets were \$ 1.40 each.

The total amount received from selling the 210 tickets was \$ 480.

How many student tickets were sold?

[4]

- 6 A Spanish family went to Scotland for a holiday.
- (a) The family bought 800 pounds (£) at a rate of £1 = 1.52 euros (€).
How much did this cost in euros? [1]
- (b) The family returned home with £118 and changed this back into euros.
They received €173.46.
Calculate how many euros they received for each pound. [1]
- (c) A toy which costs €11.50 in Spain costs only €9.75 in Scotland.
Calculate, as a percentage of the cost in Spain, how much **less** it costs in Scotland. [2]
- (d) The total cost of the holiday was €4347.00.
In the family there were 2 adults and 3 children.
The cost for one adult was double the cost for one child.
Calculate the cost for one child. [2]
- (e) The **original** cost of the holiday was **reduced** by 10% to €4347.00.
Calculate the original cost. [2]
- (f) The plane took 3 hours 15 minutes to return to Spain.
The length of this journey was 2350 km.
Calculate the average speed of the plane in
- (i) kilometres per hour, [2]
- (ii) metres per second. [1]

- 7 Sara has \$3000 to invest for 2 years.
She invests the money in a bank which pays simple interest at the rate of 7.5% per year.
Calculate how much interest she will have at the end of the 2 years.

Answer \$ [2]

- 8 Abdul invested \$240 when the rate of simple interest was $r\%$ per year.
After m **months** the interest was \$ I .
Write down and simplify an expression for I , in terms of m and r .

Answer $I = \dots\dots\dots$ [2]