

TOPICAL PAST PAPER QUESTIONS WORKBOOK

**Edexcel International GCSE Mathematics B
(4MB1) Paper 2**

Exam Series: Jan 2017 – Jan 2022

Format Type B:

Each question is followed by its answer scheme

Introduction

Each Topical Past Paper Questions Workbook contains a comprehensive collection of hundreds of questions and corresponding answer schemes, presented in worksheet format. The questions are carefully arranged according to their respective chapters and topics, which align with the latest IGCSE or AS/A Level subject content. Here are the key features of these workbooks:

1. The workbook covers a wide range of topics, which are organized according to the latest syllabus content for Cambridge IGCSE or AS/A Level exams.
2. Each topic includes numerous questions, allowing students to practice and reinforce their understanding of key concepts and skills.
3. The questions are accompanied by detailed answer schemes, which provide clear explanations and guidance for students to improve their performance.
4. The workbook's format is user-friendly, with worksheets that are easy to read and navigate.
5. This workbook is an ideal resource for students who want to familiarize themselves with the types of questions that may appear in their exams and to develop their problem-solving and analytical skills.

Overall, Topical Past Paper Questions Workbooks are a valuable tool for students preparing for IGCSE or AS/A Level exams, providing them with the opportunity to practice and refine their knowledge and skills in a structured and comprehensive manner. To provide a clearer description of this book's specifications, here are some key details:

- Title: Edexcel IGCSE Mathematics B (4MB1) Paper 1 Topical Past Paper Questions Workbook
- Subtitle: Exam Practice Worksheets With Answer Scheme
- Examination board: Pearson Edexcel
- Subject code: 4MB1
- Years covered: Jan 2017 – Jan 2022
- Paper: 2 and 2R
- Number of pages: 942
- Number of questions: 228

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Chapter 1

Number

1. 4MB0_02R_que_20170117 Q: 3

There is a total of 360 students and teachers at a school.
A trip is organised and 65% of the students and teachers bought tickets to go on this trip.

(a) Work out how many of the students and teachers bought tickets to go on the trip. (2)

The number of teachers, the number of male students and the number of female students who bought tickets to go on the trip are in the ratios 1 : 3 : 5

(b) Calculate the number of female students who bought tickets to go on the trip. (2)

All the male students who bought tickets went on the trip but 4 of the female students who bought tickets did **not** go on the trip.

(c) Find the ratio of the number of male students who went on the trip to the number of female students who went on the trip.

Give your answer in its simplest form. (3)

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Answer:

Question	Working	Mark	Notes
	(a) $\frac{65}{100} \times 360$ (oe) 234	M1 A1	2
	(b) $\frac{5}{1+3+5} \times "234"$ 130	M1 A1	2
	(c) $\frac{3}{1+3+5} \times "234"$ (78) "78" : "130" - 4 13 : 21	M1 M1 dep A1	3 7

2. 4MB0_02R_que_20170608 Q: 1

Helen saves £ P for her holidays.

She divides this money into three parts, £ x , £ y and £ z , such that $x : y : z = 2 : 3 : 5$

Given that $x = 360$

(a) calculate the value of P .

(2)

Helen changes £ y to euros and £ z to dollars.

The exchange rates are £1 = 1.25 euros and 1 euro = 1.20 dollars.

(b) (i) Calculate the number of euros she should receive.

(ii) Calculate the number of dollars she should receive.

(5)

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Answer:

Question	Working	Answer	Mark	Notes
(a)	$\frac{360}{2} \times (2 + 3 + 5)$			M1
		1800	2	A1
(b) (i)	$(y =) \frac{3}{10} \times "1800"$ $(=540)$	$(z =) \frac{5}{10} \times "1800"$ $(=900)$		M1 Calculation for either y or z Not retrospective (ie only award in (b) if used in (b))
	"540" \times 1.25			M1 (DEP)
		675 euros		A1
(ii)	"900" \times 1.25 \times 1.2			M1 (DEP)
	(=1125 \times 1.2)	1350 dollars	5	A1
				Total 7 marks

3. 4MB0_02R_que_20180116 Q: 1

Chi received \$348 in pay after tax was deducted.

Tax was deducted at a rate of 40%

(a) Calculate Chi's pay, in \$, before the tax was deducted. (2)

The tax should have been deducted at a rate of 25% and **not** 40%

(b) Calculate by how much, in \$, Chi was underpaid. (2)

(Total for Question 1 is 4 marks)

Answer:

Question	Scheme	Mark	Notes	
(a)	$348 \times \frac{100}{60}$ oe	(\$) 580	2	M1 A1
(b)	"\$580" $\times \frac{75}{100} - \348 OR (0.40 - 0.25) \times "580" OR (0.75 - 0.60) \times "580"	(\$)87	2	M1 A1

4. 4MB0_02R_que_20180608 Q: 3

In June 2014,

the exchange rate from pounds sterling (£) to US dollars (\$) was £1.00 = \$1.72
the price of a barrel of **oil** was \$115.00

In November 2014,

the exchange rate from £ to \$ was £1.00 = \$1.60
the price of a barrel of **oil** was \$84.00

(a) Calculate the cost, in £ to 2 decimal places, of a barrel of **oil**

(i) in June 2014,

(ii) in November 2014.

(3)

In June 2014, the price of a litre of **petrol** was £1.32

In November 2014, the price of a litre of **petrol** was £1.24

(b) Compare the percentage decrease in the cost of a barrel of **oil**, in £, with the percentage decrease in the price of a litre of **petrol**, in £, from June 2014 to November 2014.

Show your working clearly.

(3)

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Answer:

Question	Working Answer	Mark	Notes
(a)	one of June: $\frac{\$115}{\$1.72}$ or November: $\frac{\$84}{\$1.60}$	3	M1 a correct method to find the cost in £ of a barrel in June or in November (a correct answer assumes the method mark)
	June = £66.86		A1 must have 2 dp, condone missing £ [epen: June is 1 st A1]
	November = £52.50		A1 Accept £52.50 or £52.5, condone missing £ [epen: Nov is 2 nd A1]
(b)	% decrease in petrol eg $\frac{132-124}{132} \times 100$ or $132 \times \left(1 - \frac{x}{100}\right) = 124$ oe (= 6(.06)%)	3	M1 correct expression or correct equation involving % decrease [epen: method for petrol is 1 st M1]
	% decrease in oil eg $\frac{"£66.86" - "£52.50"}{"£66.86"} \times 100$ oe or "6686" $\times \left(1 - \frac{x}{100}\right) = "5250"$ oe (= 21(.478)%)		M1ft correct expression or correct equation involving % decrease [epen: method for oil is 2 nd M1]
	6(.06)% and 21(.5)% (cao)		A1 dep on correct calculations with correct values. Accept as whole numbers (6% & 21% or 22%) or better and must be compared. (Must be stated side by side or a comment on their relative values made or a calculation eg a difference, one as a percentage or fraction of the other, ratio, written with an inequality sign between, etc)

5. 4MB1_02R_que_20180608 Q: 10

Zahur made 250 cakes to sell at a cake sale.
Of the cakes made by Zahur, 28% were chocolate cakes.

(a) Calculate the number of chocolate cakes made by Zahur. (2)

All the other cakes made by Zahur were either lemon cakes or vanilla cakes.
The ratio of the number of lemon cakes to the number of vanilla cakes was 4 : 5

(b) Calculate the number of lemon cakes made by Zahur. (2)

Zahur put icing on each of the vanilla cakes he made.
The icing for each vanilla cake needed 75 g of icing sugar.

(c) Calculate the total amount, in kg, of icing sugar needed for all the vanilla cakes made by Zahur. (2)

At the start of the cake sale, the selling price of each of the cakes made by Zahur was \$4 and he sold 204 cakes at this price.

Zahur then reduced the selling price of each cake by 30% and he sold all the remaining cakes.

(d) Calculate the total amount of money, in \$, that Zahur received by selling all 250 cakes. (3)

When Zahur had subtracted the cost of all the ingredients he needed to make his cakes from the total amount of money he received by selling all the cakes, he found that he had made a profit of 60%

(e) Calculate, in \$, the cost of all the ingredients Zahur needed. (3)

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Answer:

Ques	Working	Answer	Mark	Notes
(a)	0.28×250 oe		2	M1oe
		70		A1
(b)	$(250 - '70') \div 9 = 20 \times 4$ oe		2	M1oe
		80		A1
(c)	$(250 - '70') \div 9 = 20 \times 5 \times 75$ (=7500) oe		2	M1oe
		7.5 kg		A1
(d)	0.7×4 (=2.8) oe		3	M1
	$4 \times 204 + 2.8 \times 46$			M1
		(\$)944.8(0)		A1 allow (\$)945
(e)	eg $160\% = 944.8$ or $1.6c = 944.8$ or $944.8 - c = 0.6c$ or $\frac{944.8 - c}{c} = 0.6$ oe		3	M1ft recognition that 944.8 is 160%
	$944.8 \div 1.6$ oe			M1ft oe
		(\$)590.5(0)		A1
				Total 12 marks

6. 4MB1_02R_que_20201106 Q: 1

The manufacturer’s price for a *Jinko* car is \$ x

Ben was given a 7% discount on the manufacturer’s price when he bought a *Jinko*.

Ben paid \$23 622 when he bought his *Jinko*.

(a) Calculate the value of x . (2)

After a year Ben sold his *Jinko* for \$19 880

(b) Calculate the percentage loss, to 3 significant figures, on the price Ben paid for his *Jinko*. (2)

During the year that Ben owned the *Jinko*, he travelled d km in the car.

The average fuel consumption of the car was 10 km per litre.

The average cost of the fuel he used was \$1.40 per litre.

Other costs for the car in the year came to \$938

The cost per km, including the loss in value, of his *Jinko* to Ben during the year that he owned the car was \$0.40

(c) Calculate the value of d . (4)

Answer:

Question	Working	Answer	Mark	Notes
(a)	$\frac{23\,622}{0.93}$			M1 Alt $x - 0.07x = 23\,622$ oe
		(\$) 25 400	2	A1
(b)	$\frac{23\,622 - 19\,880 [= 3\,742]}{23\,622} \times 100$ or $\frac{19\,880}{23\,622} \times 100 (= 84.158\dots)$			M1 dep
		15.8(%)	2	A1
(c)	$\frac{d}{10} \times 1.4(0)$			M1
	$\frac{d}{10} \times 1.4(0) + 938 + "3742" = 0.4d$ oe			M1 dep fit their 3742 from (b)
	$0.4d - \frac{d}{10} \times 1.4 = 938 + "3742"$ oe			M1 dep collecting like terms on opposite sides
		18 000(km)	4	A1
				Total 8 marks

Question 2 continued

A series of horizontal dotted lines provided for writing the answer to Question 2.

(Total for Question 2 is 4 marks)

Answer:

Question	Working	Answer	Mark	Notes
(a)	$75 = 3 \times 5 \times 5$ $90 = 2 \times 3 \times 3 \times 5$ $120 = 2 \times 2 \times 2 \times 3 \times 5$ or correct factor trees or $\begin{array}{r rrr} 3 & 75 & 90 & 120 \\ 5 & 25 & 30 & 40 \\ & 5 & 6 & 8 \end{array}$			M1 implied by correct answer
		15	2	A1
(b)	Both could sound together at 9.22 and LCM of 8 and 12 is 24 or 930 938 946 910 922 934 946			M1
		09 46 oe	2	A1
Total 4 marks				

Answer:

Question	Working	Answer	Mark	Notes
	5010, 4990, 10100, 9900, 33.5, 34.5, 68.5, 67.5			M1 at least 1 from each row.
	Colin $\frac{10100}{67.5}$ or $\frac{10.1}{67.5}$			A1
	Jenny $\frac{4990}{34.5}$ or $\frac{4.99}{34.5}$			A1
	$\frac{\left(\frac{10100}{67.5} - \frac{4990}{34.5}\right) \times 60}{1000}$			M1
		0.2995 (km/h)	5	A1
<i>Total 5 marks</i>				

9. 4MB1_02R_que_20210304 Q: 2

Each year the students at a college organise a music concert.

In 2017, the total cost of organising the concert was \$675

In 2018, the total cost of organising the concert was 20% more than the total cost in 2017

(a) Calculate the total cost of organising the concert in 2018 (2)

The tickets sold each year were either adult tickets or student tickets.

In 2019, the total number of tickets sold was 385

In 2019, the number of adult tickets sold and the number of student tickets sold were in the ratio

$$\text{number of adult tickets} : \text{number of student tickets} = 19 : 16$$

(b) Calculate the number of adult tickets sold in 2019 (2)

In 2019, the price of each adult ticket sold was \$8.50 and the price of each student ticket sold was \$4.50

(c) Calculate the total amount of money, in \$, received for all the tickets sold in 2019 (2)

In 2019, the total cost of organising the concert was double the total cost in 2017

(d) Calculate the percentage profit made in 2019
Give your answer to 1 decimal place. (2)

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Answer:

Question	Working	Answer	Mark	Notes
(a)	675×1.2 or $675 + 0.2 \times 675$			M1 complete method to increase by 20%
		(\$)810	2	A1
(b)	$\frac{19}{19+16} \times 385$			M1 oe e.g. $\frac{385}{19+16} \times 19$
		209	2	A1
(c)	"209" $\times 8.50 + (385 - "209") \times 4.50$			M1
		(\$)2568.50	2	A1 allow (\$)2568.5
(d)	$\frac{"2568.50" - 2 \times "675"}{2 \times "675"} \times 100$ or $\frac{"2568.50"}{2 \times "675"} \times 100 - 100$			M1 complete method to find % profit.
		90.3(%)	2	A1 allow awrt 90.3
				Total 8 marks

10. 4MB1_02R_que_20220118 Q: 7

There are 480 people in an airport departure lounge.

30% of these people are catching a plane to Dubai.

(a) Show that 336 of these people are **not** catching a plane to Dubai.

(2)

The people in the airport lounge who are not catching a plane to Dubai are catching a plane to Sweden or a plane to Greece or a plane to Brazil.

Of these 336 people

the number catching a plane to Sweden is s
 the number catching a plane to Greece is g
 the number catching a plane to Brazil is b where

$$s : g : b = 6 : 7 : 8$$

(b) Calculate the value of s

(3)

Pablo went by plane from Canada to Brazil in February 2020 and in February 2021

In February 2020, the cost of his ticket was \$680

In February 2021, the cost of his ticket was \$730

(c) Calculate the percentage increase, to one decimal place, in the cost of the ticket from February 2020 to February 2021

(2)

Pablo bought a ticket to go by plane to Sweden in June 2021

The cost of his ticket was \$468

The cost of this ticket was 4% greater than the cost of his ticket the last time he went by plane to Sweden, which was in December 2020

(d) Calculate the cost of Pablo's ticket to Sweden in December 2020

(2)

At the end of his trip, Pablo had 320 Swedish krona left.

He changed the 320 Swedish krona into Canadian dollars.

Using the following exchange rates,

$$1 \text{ Canadian dollar} = 0.57 \text{ euros}$$

$$1 \text{ Swedish krona} = 0.094 \text{ euros}$$

(e) calculate the number, to 2 decimal places, of Canadian dollars that Pablo should have received.

(3)

Question continued

A series of horizontal dotted lines provided for writing the answer to the question.

(Total is 12 marks)

Answer:

Ques	Working	Answer	Mark	Notes
(a)	$0.3 \times 480 (=144)$ oe or $1 - 0.3 = 0.7$ or $\frac{336}{480} \times 100 = 70$ oe		2	M1 allow M1 for 70% of 480
	$480 - 144 = 336$ or $0.7 \times 480 = 336$ or $100 - 70 = 30$	336 shown		A1 dep on M1 or clearly showing that 336 is 70(%) and $100 - 70 = 30(\%)$
(b)	$336 \div (6 + 7 + 8) (=16)$ $6 \times "16"$		3	M1 M1 M2 for $\frac{6}{21} \times 336$ oe
		96		A1
(c)	$\frac{730 - 680}{680} \times 100$		2	M1 fully correct method
		7.4(%)		A1 awrt 7.4
(d)	$468 \div 1.04$		2	M1
		(\$)450		A1
(e)	$320 \times 0.094 (= 30.08)$ or $\frac{0.57}{0.094} (= 6.0638\dots)$ or $\frac{0.094}{0.57} (= 0.1649\dots)$		3	M1
	"30.08" $\div 0.57$ or $320 \div "6.06\dots"$ or $320 \times "0.1649\dots"$			M1
		52.77		A1
				Total 12 marks

Answer:

$$\text{Selling price of 200 items} = \left(\frac{\$570}{300}\right) \times 200 \times \frac{120}{100} \quad (= \$456) \quad (\text{oe}) \quad \text{M1}$$

$$\text{Selling price of remaining 100 items} = 100 \times \frac{75}{100} \times \frac{\$456}{200} \quad (= \$171.00) \quad (\text{oe})$$

M1 (DEP)

$$\left[\left(\frac{\$570}{300}\right) \times 200 \times \frac{120}{100}\right] + \left[100 \times \frac{75}{100} \times \frac{\$456}{200}\right] - \$570 \quad \text{M1 (DEP)}$$

[OR] 200 items selling price = $\left(\frac{\$570}{300}\right) \times \frac{120}{100}$ each (= \$2.28 each) (M1)

$$100 \text{ items selling price} = (\$2.28) \times \frac{75}{100} \text{ each} \quad (= \$1.71 \text{ each}) \quad (\text{M1(DEP)})$$

$$\text{Profit} = \$2.28 \times 200 + \$1.71 \times 100 - \$570 \quad (\text{M1(DEP)})$$

OR

$$\text{Profit per item on 1st 200 sold} = \frac{20}{100} \times \frac{\$570}{300} \quad (= \$0.38)$$

((M1))

$$\text{Remaining 100 sold at} \quad \frac{\$570}{300} \times \frac{120}{100} \times \frac{75}{100} \quad (= \$1.71 \text{ each})$$

$$\therefore \text{loss on each of remaining 100} = \frac{\$570}{300} - \$1.71 \quad (= \$0.19) \quad ((\text{M1(DEP)}))$$

$$\therefore \text{Total profit} = \$0.38 \times 200 - \$0.19 \times 100 \quad ((\text{M1(DEP)})) \quad]$$

\$57.00

(cao)

A1

4

Total 4 marks

Answer:

Penalise missing monetary units in answers ONCE only

$$(a) \quad \$0.60 \times \frac{150}{100} \quad (\text{oe}) \quad \text{M1}$$

\$0.90 (accept 90 cents) A1 2

$$(b) \quad \text{Total selling price} = (200 \times \$0.60) \times \frac{120}{100} = \$144.00 \quad \text{M1}$$

To make 20% overall, needs to earn from 80 pineapples = "\$144" - (120 × "\$0.90")
(=\$36.00)

M1(DEP)

$$\text{Selling price per remaining pineapple} = \frac{\text{"\$36.00"}}{80} \quad \text{M1(DEP)}$$

$$\left[\text{OR Total profit} = \left((200 \times \$0.60) \times \frac{20}{100} \right) = \$24 \quad (\text{M1}) \right.$$

Allowable loss made on selling remainder "\$0.30 × 120" - "\$24" (= \$12)

(M1(DEP))

$$\text{Price per remaining pineapple} = \$0.60 - \text{"\$12"} / 80 \quad (\text{M1 (DEP)})$$

$$\text{OR } 120 \times 150\% + 80 \times X\% = 200 \times 120\% \quad (\text{oe}) \quad (\text{M1})$$

$$X\% = \frac{200 \times 120\% - 120 \times 150\%}{80} \quad (\text{oe}) \quad (=75\%) \quad (\text{M1(DEP)})$$

$$\therefore \$0.60 \times 75\% \quad (\text{oe}) \quad (\text{M1(DEP)})$$

OR \$X = selling price of the remaining 80 pineapples

$$\therefore \$ (0.9 \times 120) + \$ (80 \times X) = 120\% \times \$ (200 \times 0.6) \quad (\text{oe}) \quad (\text{M1})$$

$$\$X = \frac{\left(\frac{120}{100} \right) \times (200 \times 0.6) - (0.9 \times 120)}{80} \quad (\text{oe}) \quad (\text{M1(DEP)})$$

$$\$X = \frac{\text{"\$36.00"}}{80} \quad (\text{M1(DEP)})$$

(ie has correct method for 120%)]

$$\text{Selling price of remainder} = \$0.45 \text{ (accept 45 cents)} \quad \text{A1} \quad 4 \quad 6$$

Total 6 marks

Answer:

Question	Working	Answer	Mark	Notes
(a)	$36 \times 7.60 + \frac{4}{100} \times 4250$	\$443.60	2	M1A1
(b)	$430.8 = 41 \times 7.6 + \frac{4}{100} \times N$ $\Rightarrow N = 119.2 \times 100 \div 4$	\$2980	2	M1A1
(c)	$1.051 \times 1.045^2 = 1.147718\dots$ $2123.28 \div '1.147718\dots' = 1850$	\$1850	3	M1 M1 A1

Answer:

Question	Working	Answer	Mark	Notes
(a)	$\frac{800\,000}{200} \times \frac{62}{100}$	2480	2	M1 Full method for 2480
				A1
(b)	Income yr 1 "2480" \times 270 (= £669 600)	\$	6	M1
	Income yr 2 (i) $(4000 - "2480") \times \frac{70}{100} \times 220 (= 234\,080)$	399 704		M1 indep Both parts of yr 2
	Income yr 2 (ii) $\left(4000 - "2480" - (4000 - "2480") \times \frac{70}{100}\right) \times 150 (= 68\,400)$			
	Total income in £ ("669 600" + "234080" + "68400" = 972080)			M1 indep (Any attempt to convert an amount of £ to \$)
	Total income in \$ "972 080" \times 1.30 = 1 263 704			M1 indep
	Borrowings + interest = $800\,000 \times 1.08 = \$864\,000$			M1 dep all previous M marks
	Profit = "\$1263 704" - "\$864 000"			A1 cao NB Ignore labelling or (a) and (b) in this question. Award marks wherever gained.
Total 8 marks				

15. 4MB1_02_que_20180608 Q: 1

For concerts in a theatre, people can buy tickets in the Stalls, in the Dress Circle and in the Balcony.

The number of seats in the Stalls is S , the number of seats in the Dress Circle is D and the number of seats in the Balcony is B where $S:D:B = 12:9:4$

Given that $B = 600$

(a) find the total number of seats in the theatre.

(2)

The following table gives information about the cost of tickets and the number of tickets sold for a concert held in the theatre in 2017

	Cost of each ticket	Number of tickets sold
Stalls	\$65	S
Dress Circle	\$40	90% of D
Balcony	\$25	$\frac{1}{4}B$

(b) Calculate the total amount of money, in \$, paid for all the tickets sold for this concert.

(3)

For a concert held in 2018, the total amount of money paid for all the tickets sold was \$175 000

For this concert in 2018, the costs of each ticket for a seat in the Stalls, in the Dress Circle and in the Balcony were the same as the costs in 2017

Also for this concert, the number of tickets sold for seats in the Stalls was the same as in 2017 and the number of tickets sold for seats in the Dress Circle was the same as in 2017

(c) Calculate the number of tickets sold for seats in the Balcony for the concert in 2018

(2)

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Answer:

Question	Working	Answer	Notes	Mark	Sub-Total	Total
(a)	$\frac{600}{4} \times (12 + 9 + 4)$ oe		Full method to find total number of seats	M1		
		3750		A1	2	
(b)	Stalls: 1800 Dress Circle: 1350			B1		
	$(1800 \times 65) + (0.9 \times (1350 \times 40)) + (0.25 \times (600 \times 25))$			M1		
		\$169,350		A1	3	
(c)	$\frac{175000 - 169350}{25}$ (= 226) or $\frac{175000 - 117000 - 48600}{25}$			M1		
		376		A1	2	7

16. 4MB1_02_que_20190116 Q: 3

The original price of each 6-day ski pass is reduced by 15% in a sale.

In the sale the price of each 6-day ski pass is \$272

(a) Calculate the original price of each 6-day ski pass.

(2)

The price of each 3-day ski pass is £110

The exchange rate is £1 = \$1.70

(b) Calculate how much Andrew will save by buying one 6-day ski pass in the sale rather than two 3-day ski passes.

(3)

(Total for Question 3 is 5 marks)

Answer:

Question	Working	Answer	Mark	Notes
(a)	$\frac{272}{85} \times 100$	320	2	M1 A1
(b)	220×1.7 or $\frac{272}{1.7}$ $220 \times 1.7 - 272$ or $220 - \frac{272}{1.7}$	\$102 or £60	3	M1 M1 A1

17. 4MB1_02_que_20190116 Q: 4

(a) Express 56 as the product of its prime factors.

(1)

Trains to Watson leave Denby station every 56 minutes.

Trains to Barbe leave Denby station every 24 minutes.

A train to Watson and a train to Barbe both leave Denby station at 12 00.

(b) Find the next time that a train to Watson and a train to Barbe leave Denby station at the same time.

(3)

(Total for Question 4 is 4 marks)

Answer:

Question	Working	Answer	Mark	Notes
(a)		$2 \times 2 \times 2 \times 7$ or $2^3 \times 7$	1	B1
(b)	Method to find the LCM $2 \times 2 \times 2 \times 3$ or 56, 112, 168 and 24, 48, 72, 96, 120, 144, 168 or 12 00, 12 56, 13 52, 14 48 and 12 00, 12 24, 12 48, 13 12, 13 36, 14 05, 14 00, 14 24, 14 48 LCM = 168	14:48 or 2.48 pm	3	M1 A1 A1

Answer:

Question	Working	Answer	Mark	Notes
(a)	$2.35 \times 10^7 \times 0.48$		2	M1 NB $2.35 \times 10^7 \times 48\%$ is not sufficient for this mark unless it leads to the correct answer. A1 Allow 1.13×10^7 oe eg 11.3×10^6
		1.128×10^7 or $11\,280\,000$		
(b)	$\left(\frac{11\,280\,000}{10} \times 3\right)$		2	M1 A1 Allow answers between 3.38×10^6 and 3.39×10^6 inclusive must be in standard form. Allow a final answer of 3.4×10^6 if an acceptable value is seen not written in standard form.
		3.384×10^6		
(c)	$3\,384\,000 \times 1.125$		2	M1 NB " $3\,384\,000 \times 112.5\%$ " is not sufficient for this mark unless their answer is equal to their value $\times 1.125$ A1 Allow answers between 3.8×10^6 and 3.814×10^6 inclusive oe
		3.807×10^6 or $3\,807\,000$		
(d)	$2.5 \times 10^7 \times 1.024 \times 0.976$		2	M1 A1 Allow answers between $24\,986\,000$ and $24\,990\,000$ inclusive oe ISW rounding.
		2.49856×10^7 or $24\,985\,600$		
				Total 8 marks

19. 4MB1_02_que_20201106 Q: 5

Tahina travels to work by bus.
Her total bus fare last week was £12.50
This week her total bus fare has increased by 8%

- (a) Calculate her total bus fare for this week. (2)

Tahina works in a kiosk selling hot drinks.
She sells coffee, tea and hot chocolate.

On Monday, Tahina sold a total of 378 hot drinks.
The numbers of cups of coffee, tea and hot chocolate she sold were in the ratios 5 : 3 : 1

- (b) Calculate the difference between the number of cups of coffee and the number of cups of hot chocolate that Tahina sold on Monday. (3)

On Monday, $\frac{3}{14}$ of the number of cups of coffee Tahina sold were sold without milk.

- (c) Calculate the number of cups of coffee that Tahina sold without milk. (2)

The cost of each cup of coffee that Tahina sells from the kiosk is £2.80

Tahina went on holiday to the USA and to Canada.
She bought a cup of coffee in the USA for \$3.20

Using an exchange rate of £1 = \$1.24

- (d) compare the cost of each cup of coffee sold from Tahina's kiosk with the cost of the cup of coffee that Tahina bought in the USA. (2)

In Canada, Tahina bought a sandwich for 5.28 Canadian dollars.

Using exchange rates of

$$£1 = \$1.24 \quad \text{and} \quad 1 \text{ Canadian dollar} = \$0.75$$

- (e) convert 5.28 Canadian dollars to pounds (£)
Give your answer to 2 decimal places. (3)

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Answer:

Question	Working	Answer	Mark	Notes
(a)	12.5×1.08 oe		2	M1
		(£)13.5(0)		A1
(b)	$378 \div (5 + 3 + 1)$ (= 42)		3	M1
	$5 \times \frac{378}{9} - \frac{378}{9}$ oe			M1 or $210 - 42$
		168		A1
(c)	$(5 \times "42") \times \frac{3}{14}$ oe eg 3×15		2	M1ft their 42 or their 210 in part(b) ie ("their 210") $\times \frac{3}{14}$
		45		A1
(d)	2.80×1.24 [=(£)3.47(2)] or $3.20 \div 1.24$ [(£)2.58...]		2	M1 Allow for 3.47... or 2.58... if working not shown. Allow $n \times 2.80 \times 1.24$ and $n \times 3.2$ NB for $n = 210$ the figures are (\$)729.12 and (\$)672 Allow $m \times 3.20 \div 1.24$ and $m \times 2.80$ NB for $m = 210$ the figures are (£)541.94 and (£)588
		The coffee is more expensive from the kiosk		A1 dep oe must have a correct conversion and comparison in words. eg the difference is (\$)0.27 or (\$)57.12 the difference is (£)0.22 or (£)46.06 NB the difference must be correct for these 2 statements. coffee is more expensive in UK, coffee is cheaper in the USA etc.
(e)	5.28×0.75 (= 3.96)		3	M1
	$5.28 \times 0.75 \div 1.24$ or "3.96" $\div 1.24$			M1
		(£)3.19		A1 Ignore incorrect currency signs.
				Total 12 marks