

Foundation GCSE Mathematics Revision Pack**NUMBER – NON-CALC****Q1.** (a) Work out $90 \div 10$

.....

(1)(b) Write these numbers in order of size.
Start with the smallest number.

2.8

4.71

0.6

13.4

.....

(1)(c) Write $\frac{7}{10}$ as a decimal.

.....

(1)**(Total 3 marks)****Q2.** This is part of a list of TV programmes for one evening.

18 00 Tikkabilla
 18 30 Teletubbies
 19 00 Lunar Jim
 19 10 Kerwhizz
 19 35 Lazy Town
 20 00 ChuckleVision
 20 15 Arthur
 20 30 Richard Hammond's Blast Lab

(a) Which TV programme lasts for 10 minutes?

.....

(1)

Brian turned on his TV set at 19 40

(b) How many minutes did Brian have to wait for the start of Arthur?

..... minutes

(1)

Richard Hammond's Blast Lab lasts for 45 minutes.

(c) At what time did Richard Hammond's Blast Lab end?

.....

(1)**(Total 3 marks)**

- Q3.** The table gives information about the temperatures at midnight on New Year's Eve in 5 capital cities.

City	Temperature
London	-3°C
Madrid	7°C
Oslo	-11°C
Washington DC	1°C
Wellington	14°C

In Oslo, the temperature dropped by 8 degrees from midday to midnight.

- (a) What was the temperature in Oslo at midday?

.....

(1)

At midnight on New Year's Eve in Paris, the temperature was halfway between the temperature in London and the temperature in Madrid.

- (b) What was the temperature in Paris?

You must show your working.

.....

(2)

(Total 3 marks)

- Q4.** (a) Write 92% as a decimal.

.....

(1)

- (b) Write 3% as a fraction.

.....

(1)

- (c) Work out 5% of 400 grams.

..... grams

(2)

(Total 4 marks)

Q5. The diagrams show three different size packets of Brew Tea Bags (BTB).

Diagram **NOT**
accurately drawn



Tommy buys 200 bags of Brew Tea Bags (BTB).
Tommy pays with a £10 note.

- (a) Which packets should Tommy buy to leave him with the most change from £10?

You must show your working.

(4)

A supermarket shelf has room for just 72 small packets of Brew Tea Bags (BTB).
On Tuesday morning, when the supermarket opens, there are 57 packets on the shelf.
During the day,

125 packets are sold and

2 cartons, each containing 48 packets, are used to keep the shelf stocked up.

- (b) Is there any space on the shelf to unpack another carton of 48 packets?

You must show your working.

(3)

(Total 7 marks)

Q6. Here is a list of numbers.

3 8 11 25 33 41

Write down a number from the list which is

(a) an even number,

.....

(1)

(b) a square number,

.....

(1)

(c) a multiple of 11

.....

(1)

(Total 3 marks)

Q7. Here is a list of numbers.

2	4	8	12	16	20	32	40
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From the list,
write down all the numbers which are **not** factors of 32

.....

(Total 2 marks)

Q8. The table shows the highest temperature and the lowest temperature in London and in Oslo on the same day.

	Highest	Lowest
London	8 °C	−7 °C
Oslo	−4 °C	−9 °C

(a) Work out the difference between the **lowest** temperature in London and the **lowest** temperature in Oslo.

..... °C

(1)

(b) Work out the difference between the **highest** temperature in London and the **lowest** temperature in London.

..... °C

(1)

(Total 2 marks)

Q9. (a) Write the number **three thousand one hundred and nine** in figures.

.....

(1)

(b) Write down the value of the 6 in the number 23.469

.....

(1)

(c) Write the number 4261 correct to the nearest hundred.

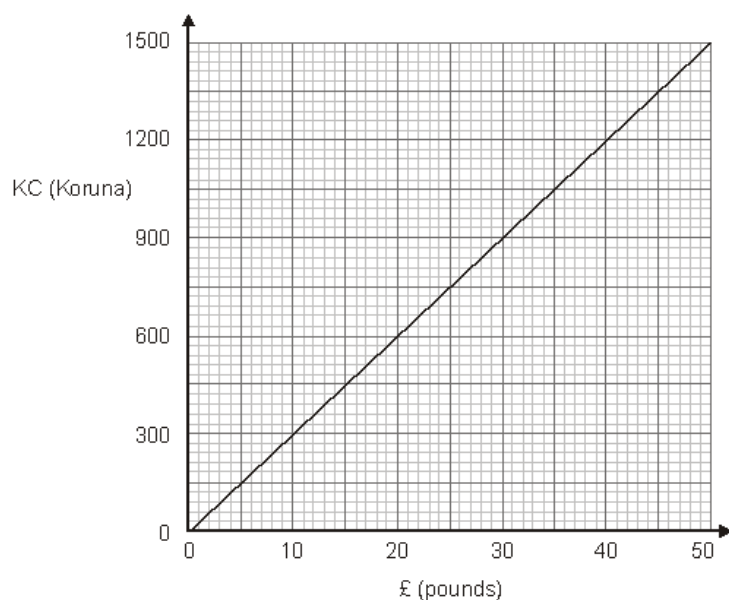
.....

(1)

(Total 3 marks)

Q10. Barbara goes on holiday to Prague. The currency in Prague is the Koruna (KC).

This graph can be used to convert between £ (pounds) and KC (Koruna).
The exchange rate is £1 = 30 KC.



Barbara bought some things in London. She saw the same things on sale in Prague.

The table shows the cost in £ (pounds) and the cost in KC (Koruna).

Item	Cost in London £ (pounds)	Cost in Prague KC (Koruna)
Headphones	£15	450 KC
Suitcase	£34	750 KC
Music player	£26	810 KC

Barbara thinks the total cost of these things was more in London than in Prague.

Is she correct? Give a reason for your answer. You must show all your working.

(Total 5 marks)

Q11. Work out 342×24 .

.....

(Total 3 marks)

Q12. Yusuf is planning a disco party at his Youth Club.
Here are his costs.

Mobile Disco	£230
Hire of room	£150
Other costs	£30
Food	£12 per person

Yusuf charges £16 per ticket.
He sells 100 tickets.

Is there enough money from the ticket sales for Yusuf to pay all his costs?
You must show your working.

(Total 4 marks)

Q13. (a) Write $\frac{1}{4}$ as a decimal.

.....

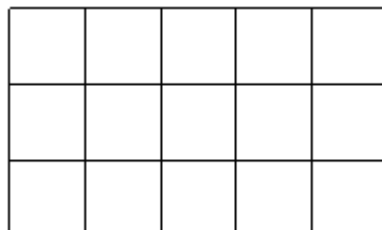
(1)

(b) Write the fraction $\frac{18}{24}$ in its simplest form.

.....

(1)

(c) Shade $\frac{3}{5}$ of this shape.



(1)

(Total 3 marks)

Q14. Mr Morris is going to take his family to the zoo.

Ticket prices (per person)	
Adult	£16.50
Child (3 – 14)	£13.50
Child (under 3)	free

Adult	£16.50
Child (3 – 14)	£13.50
Child (under 3)	free

Mr Morris wants to buy tickets for two adults and two children aged 2 and 4

(a) How much in total will the tickets cost?

£

(2)

Mr Morris pays with three £20 notes.

(b) How much change should he get?

£

(2)

(Total 4 marks)

Q15. Here is a list of eight numbers

4 5 25 29 30 33 39 40

From the list, write down

(i) a factor of 20

.....

(ii) a multiple of 10

.....

(iii) the prime number that is greater than 15

.....

(Total 3 marks)

Q16. At midnight the temperature was -9°C .
By 10 am, the temperature had risen by 8°C .

(a) Work out the temperature at 10 am.

..... $^{\circ}\text{C}$

(1)

At midday the temperature was 5°C .

(b) Work out the difference between the temperature at midnight and the temperature at midday.

..... $^{\circ}\text{C}$

(2)

On another day

the temperature at midnight was -7°C ,
the temperature at 10 am was -1°C and
the temperature at midday was 3°C .

Jenny says that, on this day, the temperature at 10 am is halfway between the temperatures at midnight and at midday.

- (c) Is Jenny correct?
You must give a reason for your answer.

.....
.....

(2)
(Total 5 marks)

- Q17.** Jerry is making some shelves.
He needs
5 pieces of wood of length 65 cm
2 pieces of wood of length 110 cm.

The wood is sold in three different lengths.
Information about these lengths is shown in the table.

Length	Cost
100 cm	£21
150 cm	£25
180 cm	£28

Jerry wants to pay as little money as possible. How much will Jerry have to pay?

You must show your working.

(Total 4 marks)

- Q18.** (a) Write 25.2 to the nearest whole number.

.....
(1)

- (b) Write $\frac{1}{5}$ as a decimal.

.....
(1)

- (c) Write 27% as a fraction.

.....
(1)
(Total 3 marks)

Q19. (a) Find the square root of 196.

.....

(1)



(b) Find the cube of 7.

.....

(1)

(Total 2 marks)

Q20. Comp Parts and Z Parts both sell memory sticks.

Comp Parts	Z Parts
Memory sticks £4 each  1 free stick for every 10 sticks bought	Memory sticks  £35 for a box of 10 sticks

There are 150 students in Year 10 in a school. A teacher needs to buy a memory stick for each student. At which of the shops should he buy the memory sticks?
You must show all your working.

(Total 5 marks)

Q21. (a) Work out $400 - 193$.

.....

(2)

(b) Work out $4 - 9$.

.....

(1)

(c) Work out -3×5 .

.....

(1)

(d) Work out $300 \div 50$.

.....

(1)

(Total 5 marks)

Q22. The table shows temperatures at midnight and midday on one day in five cities.

City	Midnight temperature	Midday temperature
Belfast	-3 °C	4 °C
Cambridge	-1 °C	4 °C
Edinburgh	-7 °C	-1 °C
Leeds	-6 °C	3 °C
London	-2 °C	6 °C

(a) Which city had the lowest midnight temperature?

.....

(1)

(b) How many degrees higher was the midnight temperature in Cambridge than the midnight temperature in Leeds?

..... °C

(1)

(c) Which city had the greatest rise in temperature from midnight to midday?

.....

(1)

(Total 3 marks)

Q23. (a) Write $\frac{9}{10}$ as a decimal.

.....

(1)

(b) Write $\frac{3}{4}$ as a percentage.

..... %

(1)

(c) Write 23% as a fraction.

.....

(1)

(d) Work out $\frac{1}{5}$ of 50

.....

(1)

(Total 4 marks)

Q24. (a) Find the square of 6.

..... (1)

(b) Find the square root of 225.

..... (1)

(c) Find the value of 10^3 .

..... (1)
(Total 3 marks)

Q25. There were 34 coins in a bag.
Jim took 15 coins out of the bag.
Rose put 17 coins into the bag.

How many coins are now in the bag?

..... (Total 2 marks)

Q26. (a) Change $\frac{1}{4}$ to a decimal.

..... (1)

(b) Find 10% of £50.

£ (1)
(Total 2 marks)

Q27. A packet of popcorn costs £1.99. Lisa buys 2 packets of popcorn. She pays with a £5 note.

Work out how much change Lisa should get.

£ (Total 2 marks)

Q28. (a) Write the number **three thousand four hundred and twenty five** in figures.

..... (1)

(b) Write down the value of 4 in the number 2840.

..... (1)

(c) Write the number 279 to the nearest hundred.

..... (1)
(Total 3 marks)

- Q29.** (a) Write these numbers in order of size.
Start with the smallest number.

-5 3 -1 0 8

.....

(1)

- (b) Work out $7 + 3 \times 5$

(1)

(Total 2 marks)

- Q30.** A box contains only red pencils and blue pencils.
The ratio of the number of red pencils to the number of blue pencils is 2 : 3.

What fraction of the pencils are red?

.....

(Total 2 marks)

- Q31.** The cost of 30 litres of petrol is £28.80.
Work out the cost of 1 litre of this petrol.

.....

(Total 3 marks)

- Q32.** (a) Write 3.9 to the nearest whole number.

.....

(1)

- (b) Write down the square of 4.

.....

(1)

(Total 2 marks)

- Q33.** There are some pens in a box. The pens are red, blue, green or black.

The table shows the percentage of red, blue and green pens in the box.

Colour of pen	Percentage
Red	23 %
Blue	32 %
Green	10 %
Black	

Work out the percentage of black pens in the box.

..... %

(Total 2 marks)

Q34. Frankie says that $15 - 3 \times 2 = 24$.

Frankie is wrong.
Explain why.

.....

(Total 1 mark)

Q35. (a) Here are some fractions.

$$\frac{2}{4} \quad \frac{4}{8} \quad \frac{2}{5} \quad \frac{7}{14}$$

Which one of these fractions is **not** equal to $\frac{1}{2}$?

.....

Give a reason for your answer.

.....

.....

(2)

(b) Work out $\frac{3}{4}$ of 20

.....

(2)

(Total 4 marks)

Q36. Work out

(i) $3 \times 3 - 5$

.....

(ii) $20 \div (12 - 2)$

.....

(iii) $7 + 8 \div 4$

.....

(Total 3 marks)

Q37. The total cost of these 2 pens is 60p.



Work out the total cost of 5 of these pens.
Give your answer in pounds.

£

(Total 3 marks)

Q38. (a) Write these numbers in order of size.
Start with the smallest number.

17 6 168 24

.....

(1)

(b) Write these numbers in order of size.
Start with the smallest number.

1.8 3.71 0.5 12.4

.....

(1)

(Total 2 marks)

Q39. (a) Write the number 3187 to the nearest thousand.

.....

(1)

(b) Write the number **four thousand six hundred and eighty one** in figures.

.....

(1)

(c) Write the number 5060 in words.

.....

(1)

(Total 3 marks)

- Q40.** The table shows some information about the medals won by each of 6 countries at the 2004 Olympic Games.

Country	Medals			
	Gold	Silver	Bronze	Total
United States	35	39	29	103
Russia	27	27	38
Australia	17	16	49
Germany	14	16	18	48
Italy	10	11	11	32
Great Britain	9	9	12	30

- (a) Complete the table for Russia and Australia.

(2)

- (b) How many bronze medals did Russia win?

.....

(1)

- (c) Which country won 10 gold medals?

.....

(1)

Great Britain won a total of 30 medals.

- (d) Work out the fraction of these medals which were silver.
Give your fraction in its simplest form.

.....

(2)

- (e) Find the ratio of the total number of medals won by Germany to the total number of medals won by Italy.
Give your ratio in its simplest form.

.....

(2)

(Total 8 marks)

Q41. (a) Work out $2 \times (11 + 9)$

.....

(1)

(b) Work out $3 \times 5 + 4$

.....

(1)

(c) Work out $20 - 5 \times 3$

.....

(1)

(Total 3 marks)

Q42.

Gift shop	
<u>Price list</u>	
Key ring	£3.20
Hat	£3.99
Pencil case	£2.70
Ruler	45p
Pen	60p
Pencil	

Keith buys 3 pens.

(a) Work out the total cost.

£

(2)

Simon buys a pencil case, a ruler and a pen.
He pays with a £5 note.

(b) Work out how much change he should get.

£

(3)

The gift shop also sells pencils.

The price of a pencil is $\frac{2}{3}$ of the price of a pen.

(c) Work out the price of a pencil.

..... p

(2)

(Total 7 marks)

Q43. Here is a list of 8 numbers.

3 5 6 8 9 10 11 16

From the list, write down

(a) **two** odd numbers,

..... and

(1)

(b) **two** numbers with a sum of 15

..... and

(1)

(c) a factor of 12

.....

(1)

(d) a multiple of 4

.....

(1)

James says that 10 is a square number because $5^2 = 10$

(e) James is wrong.
Explain why.

.....
.....

(1)

(Total 5 marks)

Q44. (a) Write the number **nine thousand, three hundred and seventy four** in figures.

.....

(1)

(b) Write the number 62 500 in words.

.....

(1)

(c) Write down the value of the **8** in the number 3285

.....

(1)

(d) Write the number 2174 to the nearest hundred.

.....

(1)

(e) Write the number 7362 to the nearest thousand.

.....

(1)

(Total 5 marks)

Q45. Work out 36×24

.....

(Total 3 marks)

Q46. (a) Work out $4 \times 5 - 8$

.....

(1)

(b) Work out $18 + 2 \times 3$

.....

(1)

(c) Work out $(4 + 3) \times 7$

.....

(1)

(Total 3 marks)

Q47.

City	Temperature
Cardiff	-2°C
Edinburgh	-4°C
Leeds	2°C
London	-1°C
Plymouth	5°C

The table gives information about the temperatures at midnight in 5 cities.

(a) Write down the lowest temperature.

..... $^{\circ}\text{C}$

(1)

(b) Work out the difference in temperature between Cardiff and Plymouth.

..... $^{\circ}\text{C}$

(1)

(c) Work out the temperature which is halfway between -1°C and 5°C .

..... $^{\circ}\text{C}$

(1)

(Total 3 marks)

Q48. (a) Write the number 4117 in words.

.....

(1)

(b) Write the number 4117 to the nearest hundred.

.....

(1)

(Total 2 marks)

Q49. (a) Work out 50% of £60

£

(1)

(b) Work out 25% of 20 metres.

..... metres

(1)

(Total 2 marks)

Q50.

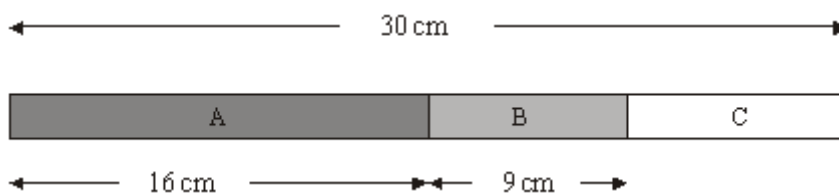


Diagram **NOT** accurately drawn

Here is a picture of a stick.
The stick is in three parts, A, B and C.

The total length of the stick is 30 cm.
The length of part A is 16 cm.
The length of part B is 9 cm.

Work out the length of part C.

..... cm

(Total 2 marks)

Q51. Emma says

“Since 3 is half way between 2 and 4 then $\frac{1}{3}$ will be half way between $\frac{1}{2}$ and $\frac{1}{4}$ ”

Emma is wrong.

Show that $\frac{1}{3}$ is not half way between $\frac{1}{2}$ and $\frac{1}{4}$

Show your working here (or on a separate piece of paper).

(Total 3 marks)

Q52. Simon is a salesman.

He gets paid expenses of 40p for every mile that he drives during work.

He also gets £12 expenses as a meal allowance for any day that he drives during work.

The table gives information about the number of miles Simon drove on 5 days in one week.

Day	Number of miles
Monday	48
Tuesday	37
Wednesday	0
Thursday	78
Friday	21

(a) Work out Simon's total expenses.

£

(4)

Sasha works for the same company.

She gets paid expenses of 40p for each mile she drives during work.

Last year she worked for 48 weeks.

Her total **expenses** for driving for the year were £2116.80

(b) Work out an estimate for the average number of miles Sasha drove during work each week last year.

.....

(3)

(Total 7 marks)

Q53. (a) Work out $\frac{1}{2} \times \frac{1}{5}$

.....

(1)

(b) Work out $\frac{1}{2} + \frac{3}{8}$

Give your answer in its simplest form.

.....

(2)

(Total 3 marks)

Q54. Parul has £1.70

She wants to buy a drink and something to eat.

(a) What are the different combinations she can buy?

Ben's Burger Bar			
Burgers			
Single burger		£0.85	
Single burger with cheese		£0.95	
Double burger		£1.55	
Double burger with cheese		£1.70	
Fries		Cola	
Regular	£0.65	Regular	£0.85
Large	£0.99	Large	£1.10
Meal Deals			
Regular			
Single burger with		£2.09	
regular fries and regular cola			
Large			
Double burger with cheese		£3.49	
large fries and large cola			

.....

(2)

Ken buys

2 double burgers with cheese,
1 large fries
and 1 large cola.

He pays with a £10 note.

- (b) He gets the best price.
What change should he get?

£

(3)
(Total 5 marks)

- Q55.** Chris owns a clothes shop.
He bought 50 shirts at £12 for each shirt.
He chose the selling price of each shirt so that he would make a profit of 30% on each shirt.
He sold 20 shirts at this price.

Chris then reduced the selling price of each shirt by 15%.
He then sold the remaining shirts at this reduced selling price.

Has Chris made a profit or loss?
You must explain your answer clearly.

(Total 8 marks)

Q56.

A bus seats 47 people.
Another 6 people can stand.

There are 44 people on the bus.
The bus stops.

8 people get off the bus.
19 people want to get on the bus.

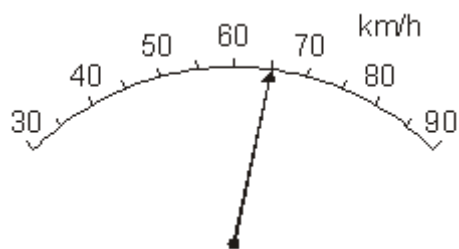
Can the bus hold all the people who want to get on the bus?



Explain your answer.

(Total 2 marks)

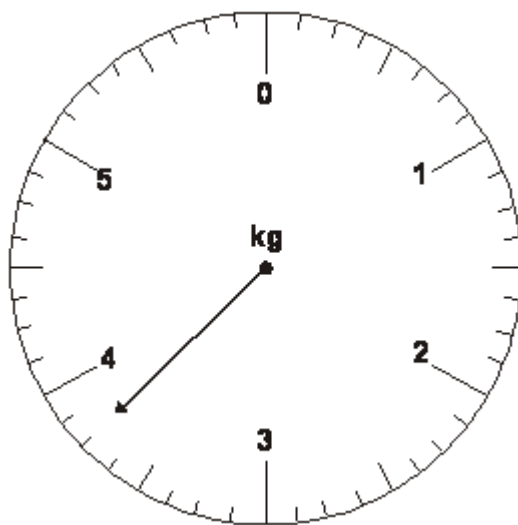
Q57. (a) Write down the reading on this scale.



..... km/h

(1)

The scale shows the weight of Sam's dog.



Sam's baby brother weighs 5 kg.

(b) Work out the difference in weight between Sam's baby brother and Sam's dog.

..... kg

(2)

(Total 3 marks)

M1.

	Answer	Mark	Additional Guidance
(a)	9	1	B1 cao
(b)	0.6, 2.8, 4.71, 13.4	1	B1 cao
(c)	0.7	1	B1 cao
Total for Question: 3 marks			

M2.

	Working	Answer	Mark	Additional Guidance
(a)		Lunar Jim	1	B1 cao
(b)	$20\ 15 - 19\ 40 = 20 + 15$	35	1	B1 cao
(c)	$20\ 30 + 45 = 21\ 00 + 15$	21 15	1	B1 cao
Total for Question: 3 marks				

M3.

	Working	Answer	Mark	Additional Guidance
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(a)	<p>$-11 + 8$ OR use a number line and count back</p> <p>Eg:</p> <p>$-11 \quad -10 \quad -9 \quad -8 \quad -7 \quad -6 \quad -4$</p> <p>$-3 \quad -2 \quad -1 \quad 0 \quad 1$</p> <p>Count 8 places</p>	-3°C	1	B1 cao
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(b)

2°C

2

Total for Question: 3 marks

M4.

	Working	Answer	Mark	Additional Guidance
(a)		0.92	1	B1 for 0.92 cao
(b)		$\frac{3}{100}$	1	B1 for $\frac{3}{100}$ cao 100
(c)	$\frac{5}{100} \times 400$	20	2	M1 for $\frac{5}{100} \times 400$ oe A1 for 20 cao
Total for Question: 4 marks				

M5.

		Working	Answer	Mark	Additional Guidance
FE	(a)	200 bags = 40×5 , cost = $\text{£}0.85 \times 5 = \text{£}4.25$ or $80 \times 2 + 40 \times 1$, cost = $\text{£}1.65 \times 2 + \text{£}0.85$ = $\text{£}3.30 + \text{£}0.85 = \text{£}4.15$ or $160 \times 1 + 40 \times 1$, cost = $\text{£}3.40 + \text{£}0.85 = \text{£}4.25$ OR	$80 \times 2 + 40 \times 1$ is the least expensive	4	B1 for at least 2 alternative ways of getting 200 bags M1 for a correct process to work out the cost of 1 way A1 for the 3 correct total costs C1 for justification that $80 \times 2 + 40 \times 1$ is the least expensive, therefore giving Tommy the greatest change OR

		<p>Using the 80 bag packet is least expensive since:</p> <p>$£1.65 < £0.85 \times 2$ (£1.70) and $£1.65 \times 2 = £3.30 < £3.40$</p> <p>Therefore 2 80 bag packets + 1 40 bag packet will be needed to get the least expensive total cost.</p>			<p>M1 for comparing the cost of 2 40 bag packets with 1 80 bag packet or 2 80 bag packets with 1 1600 bag packet</p> <p>A1 for correct arithmetic giving accurate costs</p> <p>C1 for justification that using 80 bag packets gives thy least expensive way</p> <p>B1 for $80 \text{ bags} \times 2 + 40 \text{ bag} \times 1$</p>
	(b)	<p>$57 + 48 \times 2 - 125 = 153 - 125 = 28$ pkts on shelf</p> <p>$72 - 28 = 44$ pkts on shelf at end of day</p> <p>OR</p> <p>$57 + 48 + 48 = 105 + 48 = 153$</p> <p>$153 - 125 = 28$ pkts on shelf</p> <p>$72 - 28 = 44$ pkts on shelf at end of day</p> <p>OR</p> <p>When there are $72 - 48 = 24$ pkts on shelf, a carton can opened.</p> <p>After selling $57 - 24 = 33$, 1st carton of 48 is opened to fill the shelf to 72.</p> <p>After selling a further 48, 2nd carton of 48 added.</p> <p>$33 + 48 = 81$ pkts sold.</p> <p>$125 - 81 = 44$ pkts on shelf at end of day</p>	Not room for the full carton	3	<p>M1 for $57 + 48 \times 2 - 125$ oe</p> <p>M1 for $72 - "57 + 48 \times 2 - 125" = 44$</p> <p>C1 for justification for opening another carton or not</p> <p>OR</p> <p>M1 for a correct process that includes the removing of 125 pkts</p> <p>M1 for calculation leading to the number of spaces remaining at the end of the day</p> <p>C1 for justification for opening another carton or not</p>
Total for Question: 7 marks					

M6.

	Answer	Mark	Additional Guidance
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(a)	8	1	B1 for 8 cao
(b)	25	1	B1 for 25 cao
(c)	33	1	B1 for 33 (or 11)
Total for Question: 3 marks			

M7.

Working	Answer	Mark	Additional Guidance
	12, 20 and 40	2	B2 cao (– 1 for each extra number given) [B1 for 1 or 2 correct numbers (– 1 for each extra number given)]
Total for Question: 2 marks			

M8.

	Working	Answer	Mark	Additional Guidance
(a)	–7 to –9	2	1	B1 Accept –2
(b)	8 to –7	15	1	B1 cao
Total for Question: 2 marks				

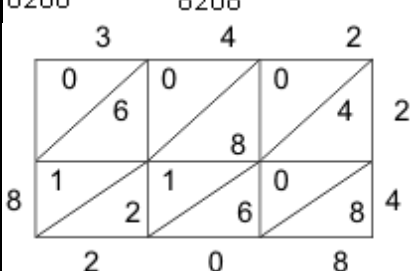
M9.

	Answer	Mark	Additional Guidance
(a)	3109	1	B1 cao
(b)	6 hundredths	1	B1 for 6 hundredths or 0.06 or $\frac{6}{100}$
(c)	4300	1	B1 cao
Total for Question: 3 marks			

M10.

Working	Answer	Mark	Additional Guidance
<p>London: £15, £34, £26 (£75) → 450, 1020, 780 (2250) KC</p> <p>Prague: 450, 750, 810 KC (2010KC) → £15, £25, £27 (£67)</p> <p>£ to KC is × 30; KC to £ is ÷ 30.</p>	<p>Yes. Cheaper in Prague (More in London)</p>	5	<p>M1 conversion method (× or ÷ as appropriate) or evidence of use of graph (seen, or implied, by at least lines or evidence of conversion by marks on axes) for at least one figure.</p> <p>M1 (dep) conversion applied to 3 figures or totals (converted figures must be stated, marks on graph insufficient)</p> <p>A1 converted figures shown (all three individual items or totals converted correctly; NB: no tolerance on graph)</p> <p>M1 totalling converted amounts</p> <p>C1 (dep on at least M1) comparison of “totals” and correct conclusion Eg “2250KC” > “2010KC”, “£75” > “£67” so cheaper to buy in Prague.</p>
Total for Question: 5 marks			

M11.

Working	Answer	Mark	Additional Guidance												
$ \begin{array}{r} 342 \\ \times 24 \\ \hline 6840 \\ 1368 \\ \hline 8208 \end{array} $  <table border="1"> <tr> <td>300</td><td>40</td><td>2</td><td></td></tr> <tr> <td>6000</td><td>800</td><td>40</td><td>20</td></tr> <tr> <td>1200</td><td>160</td><td>8</td><td>4</td></tr> </table> $6000 + 800 + 40 + 1200 + 160 + 8 = 8208$	300	40	2		6000	800	40	20	1200	160	8	4	8208	3	<p>M1 for a complete method with relative place value correct. Condone 1 multiplication error, addition not necessary.</p> <p>M1 (dep) for addition of all the appropriate elements of the calculation.</p> <p>A1 cao</p> <p>M1 for a complete grid with not more than 1 multiplication error, addition not necessary (inside numbers)</p> <p>M1 (dep) for addition of all the appropriate elements of the calculation (eg outside numbers)</p> <p>A1 cao</p> <p>M1 for sight of a complete partitioning method, condone 1 multiplication error, addition not necessary.</p> <p>M1 (dep) for addition of all the appropriate elements of the calculation.</p> <p>A1 cao</p>
300	40	2													
6000	800	40	20												
1200	160	8	4												
Total for Question: 3 marks															

M12.

Working	Answer	Mark	Additional Guidance
<p>Ticket sales: $16 \times 100 = £1600$</p> <p>Meals: $12 \times 100 = 1200$</p> <p>Fixed costs:</p> <p>$230 + 150 + 30 = 410$; $410 + 1200 = 1610$</p> <p>or $1600 - 230 - 150 - 30 = 1190$;</p> <p>$1190 - 1200 = -10$</p> <p>Total $410 + 1200 = £1610$ ($< £1600$)</p> <p>OR</p> <p>$£1610 \div 100 = £16.10$ ticket price</p>	<p>No.</p> <p>£1610</p> <p>>£1600</p> <p>£410</p> <p>>£400</p>	4	<p>M1 for addition of 230, 150, 30 (or + 410) (= 422 or 800)</p> <p>M1 for 12×100 (= 1200)</p> <p>A1 for £1610 total costs or £16.10 ticket price needed.</p> <p>C1 (dep on at least M1) for correct comparison and statement that "£1610" > "£1600" and that costs will not be covered.</p> <p>OR</p> <p>M1 for subtraction of 230, 150, 30</p>

($> \text{£}16$) OR $\text{£}1600 - 410 - 1200 = - \text{£}10$ (or $\text{£}10$ needed) OR $\text{£}1600 - 1200 = \text{£}400$ ($< \text{£}410$ costs)		(or $- 410$) M1 for $12 \times 100 (= 1200)$ A1 for $\text{£}400$ left or $- \text{£}10$ C1 (dep on at least M1) for correct comparison and statement that " $\text{£}410 > \text{£}400$ " and that costs will not be covered.
Total for Question: 4 marks		

M13.

	Answer	Mark	Additional Guidance
(a)	0.25	1	B1 cao
(b)	$\frac{3}{4}$	1	B1 cao
(c)	9 squares shaded	1	B1 for any 9 squares shaded
Total for Question: 3 marks			

M14.

	Working	Answer	Mark	Additional Guidance
(a)	$2 \times 16.50 + 13.50$	46.50	2	M1 for $2 \times 16.50 + 13.50$ A1 cao
(b)	$3 \times 20 - "46.50"$	13.50	2	M1 for $3 \times 20 - "46.50"$ A1 ft
Total for Question: 4 marks				

M15.

	Answer	Mark	Additional Guidance
(i)	4 to 5	1	B1 for 4 to 5
(ii)	30 to 40	1	B1 for 30 to 40
(iii)	29	1	B1 cao
Total for Question: 3 marks			

M16.

	Answer	Mark	Additional Guidance
(a)	-1	1	B1 cao
(b)	14	2	M1 for $5 - -9$ or $-9 - 5$ A1 for 14 or -14
(c)	No + reason	2	M1 for attempt to find middle of -7 and 3 eg, may see -7 and 3 on number line or $(-7 - 3) \div 2$ or $(-3 - 7) \div 2$ A1 for 'No' and correct reason
Total for Question: 5 marks			

M17.

Working	Answer	Mark	Additional Guidance
$65 + 110 = 175$ $65 + 65 = 130$ $2 \times 28 + 25 + 21$	£102	4	M1 for some idea of putting lengths together $65 + 65$ oe or $65 + 110$ oe seen, or finding the total length of wood eg $65 \times 5 + 220 (= 545)$ or 7 pieces of wood from which those needed can be cut C1 for a combination of lengths of wood that will allow all lengths to be cut, for example, 2 lengths of 1.8m, 1 length of 1.5m, 1 length of 1m C1 ft for clearly showing a combination of allowed prices for their chosen lengths eg $2 \times 28 + 25 + 21$ A1 cao
Total for Question: 4 marks			

M18.

	Answer	Mark	Additional Guidance
(a)	25	1	B1 for 25 cao
(b)	0.2	1	B1 for 0.2 cao
(c)	$\frac{27}{100}$	1	$\frac{27}{100}$ B1 for $\frac{27}{100}$ cao
Total for Question: 3 marks			

M19.

	Working	Answer	Mark	Additional Guidance
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(a)		14	1	B1 for 14 cao
(b)	$7 \times 7 \times 7$	343	1	B1 for 343 cao
Total for Question: 2 marks				

M20.

Working	Answer	Mark	Additional Guidance
Zparts: 150 is 15 boxes; $15 \times £35 = £525$ CompParts: $150 \div 11$ is 13.6 so 13 offers $(150 - 13) \times £4 = 137 \times 4 = £548$ OR $13 \times 11 = 143$; $150 - 143 = 7$ extra $(13 \times 10 + 7) = 137$; $137 \times 4 = £548$ OR $150 \times 4 = £600$ 13 offers so 13 free: $13 \times 4 = 52$; $600 - 52 = £548$	Zparts £525 CompParts £548 so Zparts cheaper	5	M1 for $15 \times £35 (= £525)$ M1 for attempt to account for 1 free (eg $\div 11$ or listing with 10 charged and one not) M1 for $\times 4$ (may be shown as $\times 40$) A1 for totals of £548 and £525 OR unit costs of £3.64/£3.63 and £3.50 (oe) C1 (dep on at least M1) for making comparison figures clear and giving correct deduction.
Total for Question: 5 marks			

M21.

	Answer	Mark	Additional Guidance
(a)	207	2	M1 for a valid method (condone one error) or sight of 7 (as units) in working or answer OR '193 + 7' + 200 or '193 + 200' + 7 A1 cao

(b)	−5	1	B1 cao
(c)	−15	1	B1 cao
(d)	6	1	B1 cao
Total for Question: 5 marks			

M22.

	Answer	Mark	Additional Guidance
(a)	Edinburgh	1	B1 for Edinburgh or −7
(b)	5	1	B1 cao
(c)	Leeds	1	B1 for Leeds or −6 to 3 or 9 or −9
Total for Question: 3 marks			

M23.

	Answer	Mark	Additional Guidance
(a)	0.9	1	B1 for 0.9
(b)	75	1	B1 for 75 cao
(c)		1	$\frac{23}{100}$ o.e. B1 for $\frac{23}{100}$ o.e.
(d)	10	1	B1 for 10 cao
Total for Question: 4 marks			

M24.

	Answer	Mark	Additional Guidance
(a)	36	1	B1 cao accept answer in words, ignore spelling
(b)	15	1	B1 cao accept answer in words, ignore spelling
(c)	1000	1	B1 cao accept answer in words, ignore spelling
Total for Question: 3 marks			

M25.

Working	Answer	Mark	Additional Guidance
34 – 15 + 17	36	2	M1 34 – 15 + 17 or 34 + 2 or 34 + 17 – 15 oe or sight of 19 or 51 A1 cao (accept if 36p seen) B1 SC for 2 seen as their answer
Total for Question: 2 marks			

M26.

	Answer	Mark	Additional Guidance
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(a)	0.25	1	B1 cao
(b)	5	1	B1 cao
Total for Question: 2 marks			

M27.

Working	Answer	Mark	Additional Guidance
$1.99 + 1.99 = 3.98$ $5 - 3.98 =$	1.02	2	M1 for 2×1.99 or for $5 - 2 - 2$ A1 for 102(p) or for £1.02 SC B1 for £1.2 or £1.2p
Total for Question: 2 marks			

M28.

	Answer	Mark	Additional Guidance
(a)	3425	1	B1 for 3425 cao
(b)	40	1	B1 for 40 or forty or 4 tens or tens
(c)	300	1	B1 for 300 or 3 (hundred)
Total for Question: 3 marks			

M29.

	Working	Answer	Mark	Additional Guidance
(a)		-5, -1, 0, 3, 8	1	B1 for -5, -1, 0, 3, 8 cao
(b)	$7 + 15$	22	1	B1 for 22 cao
Total for Question: 2 marks				

M30.

Answer	Mark	Additional Guidance
$\frac{2}{5}$	2	B2 for $\frac{2}{5}$ (B1 for $\frac{a}{5}$ or $\frac{2}{b}$)
Total for Question: 2 marks		

M31.

Working	Answer	Mark	Additional Guidance
$28.80 \div 30 = 0.96$	96p or £0.96	3	M1 for $28.80 \div 30$ or valid partitioning method, allow one arithmetic error A1 for sight of 0.96 or 96 B1 ft for their cost of one litre correctly written as money
Total for Question: 3 marks			

M32.

	Answer	Mark	Additional Guidance
(a)	4	1	B1 accept 4.0(0)
(b)	16	1	B1
Total for Question: 2 marks			

M33.

Working	Answer	Mark	Additional Guidance
$100 - (23 + 32 + 10)$ $= 100 - 65$	35	2	M1 for $100 - (23 + 32 + 10)$ o.e. A1 cao watch for answer only in table
Total for Question: 2 marks			

M34.

Answer	Mark	Additional Guidance
explanation	1	B1 for explanation with Bidmas e.g. Brackets needed $(15 - 3)$ or Answer should be 9

	Note: brackets needed is insufficient
Total for Question: 1 mark	

M35.

	Working	Answer	Mark	Additional Guidance
(a)	$3 \times (20 \div 4)$	$\frac{2}{5}$ Reason	2	B1 for $\frac{2}{5}$ B1 for correct reason. E.g. “ $\frac{2}{5}$ does not cancel to $\frac{1}{2}$ ” or “2 is not half of 5” or “ $\frac{2}{5}$ is 0.4” or “ $\frac{2}{5}$ is less than $\frac{1}{2}$ ” or “(the top is even and) the bottom is odd” oe
(b)		15	2	M1 for $3 \times (20 \div 4)$ oe or $\frac{60}{4}$ or 5 seen A1 for 15 cao
Total for Question: 4 marks				

M36.

	Working	Answer	Mark	Additional Guidance
(i)	$9 - 5$	4	3	B1 for 4 cao
(ii)	$20 \div 10$	2		B1 for 2 cao
(iii)	$7 + 2$	9		B1 for 9 cao

Total for Question: 3 marks

M37.

Working	Answer	Mark	Additional Guidance
$\frac{60}{2} \times 5$	1.50	3	<p>$\frac{60}{2} \times 5$ oe or 150 seen M2 for $\frac{60}{2}$ or 30 seen or 60 × 5 or 300 seen or 0.6 × 5 or 3(.00) seen A1 for 1.5(0)(p) Accept 150p with £ crossed out</p>
Total for Question: 3 marks			

M38.

	Answer	Mark	Additional Guidance
(a)	6, 17, 24, 168	1	B1 for 6, 17, 24, 168
(b)	0.5, 1.8, 3.71, 12.4	1	B1 for 0.5, 1.8, 3.71, 12.4
Total for Question: 2 marks			

M39.

	Answer	Mark	Additional Guidance
(a)	3000	1	B1 for 3000 cao
(b)	4681	1	B1 for 4681 cao
(c)	five thousand and sixty	1	B1 for five thousand and sixty
Total for Question: 3 marks			

M40.

	Working	Answer	Mark	Additional Guidance
(a)		92 and 16	2	B1 for 92 B1 for 16
(b)		38	1	B1 cao
(c)		Italy	1	B1 cao
(d)	$\frac{9}{30}$	$\frac{3}{10}$	2	B2 cao $\frac{9}{30}$ (B1 for $\frac{9}{30}$)
(e)	48:32	3:2	2	B2 cao (B1 for sight of 48, 32 or two numbers in correct proportion) SC B1 for 2:3
Total for Question: 8 marks				

M41.

	Answer	Mark	Additional Guidance
(a)	40	1	B1 cao
(b)	19	1	B1 cao
(c)	5	1	B1 cao
Total for Question: 3 marks			

M42.

	Working	Answer	Mark	Additional Guidance
(a)	3×60	1.80	2	M1 for 3×60 or $60 + 60 + 60$ or 3×45 or 180 seen A1 (accept 1.8) SC B1 for £1.35
(b)	$2.70 + 0.45 + 0.60$ $= 3.75$ $5 - 3.75 = 1.25$	1.25	3	M1 for $2.70 + 0.45 + 0.60$ or 3.75 seen (note: working could be in pence) M1 (dep) for $5 - "3.75"$ A1 cao SC B2 for 125
(c)	$60 \div 3 = 20$ $20 \times 2 = 40$	40	2	M1 for $60 \div 3$ or 60×2 or sight of 20 or 120 A1 cao
Total for Question: 7 marks				

M43.

	Answer	Mark	Additional Guidance
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(a)	Two of 3, 5, 9, 11	1	B1 cao
(b)	5, 10 or 6,9	1	B1 cao
(c)	3 or 6	1	B1 for 3 or 6
(d)	8 or 16	1	B1 for 8 or 16
(e)	e.g. " $5^2 = 25$ "	1	B1 for correct explanation, e.g. $5^2 = 25$ or $3^2 = 9$ and $4^2 = 16$ so 10 cannot be a square number or showing diagrammatically that 10 is not a square number
Total for Question: 5 marks			

M44.

	Answer	Mark	Additional Guidance
(a)	9374	1	B1 cao
(b)	sixty two thousand five hundred	1	B1 cao
(c)	80	1	B1 for 80, accept 8 tens, tens
(d)	2200	1	B1 cao
(e)	7000	1	B1 cao
Total for Question: 5 marks			

M45.

Working	Answer	Mark	Additional Guidance
$20 \times 36 = 720$	864	3	M1 for a complete method with relative

4 × 36 = 144				<p>place value correct. Condone 1 multiplication error, addition not necessary.</p> <p>M1 (dep) for addition of the appropriate elements of the calculation.</p> <p>[Note: Repeated addition of 24 lots of 36 (36 lots of 24) gets M1 only]</p> <p>A1 cao</p>
	30	6		
20	600	120	720	
4	120	24	144	
	720	144		
<div><div><div><div><div>0</div><div>6</div></div><div><div>1</div><div>2</div></div></div><div><div>1</div><div>2</div></div><div><div>2</div><div>4</div></div></div><div>8</div><div>2</div><div>4</div><div>6</div><div>4</div></div>				
Total for Question: 3 marks				

M46.

	Answer	Mark	Additional Guidance
(a)	12	1	B1 cao
(b)	24	1	B1 cao
(c)	49	1	B1 cao
<p>Total for Question: 3 marks</p>			

M47.

	Answer	Mark	Additional Guidance
(a)	−4	1	B1 for −4°C or Edinburgh

(b)	7	1	B1 for 7 (accept –7)
(c)	2	1	B1 for 2 or Leeds
Total for Question: 3 marks			

M48.

	Answer	Mark	Additional Guidance
(a)	Four thousand, one hundred and seventeen	1	B1 for four thousand, one hundred and seventeen or
(b)	4100	1	B1 for 4100 in figures or words or 41 hundred
Total for Question: 2 marks			

M49.

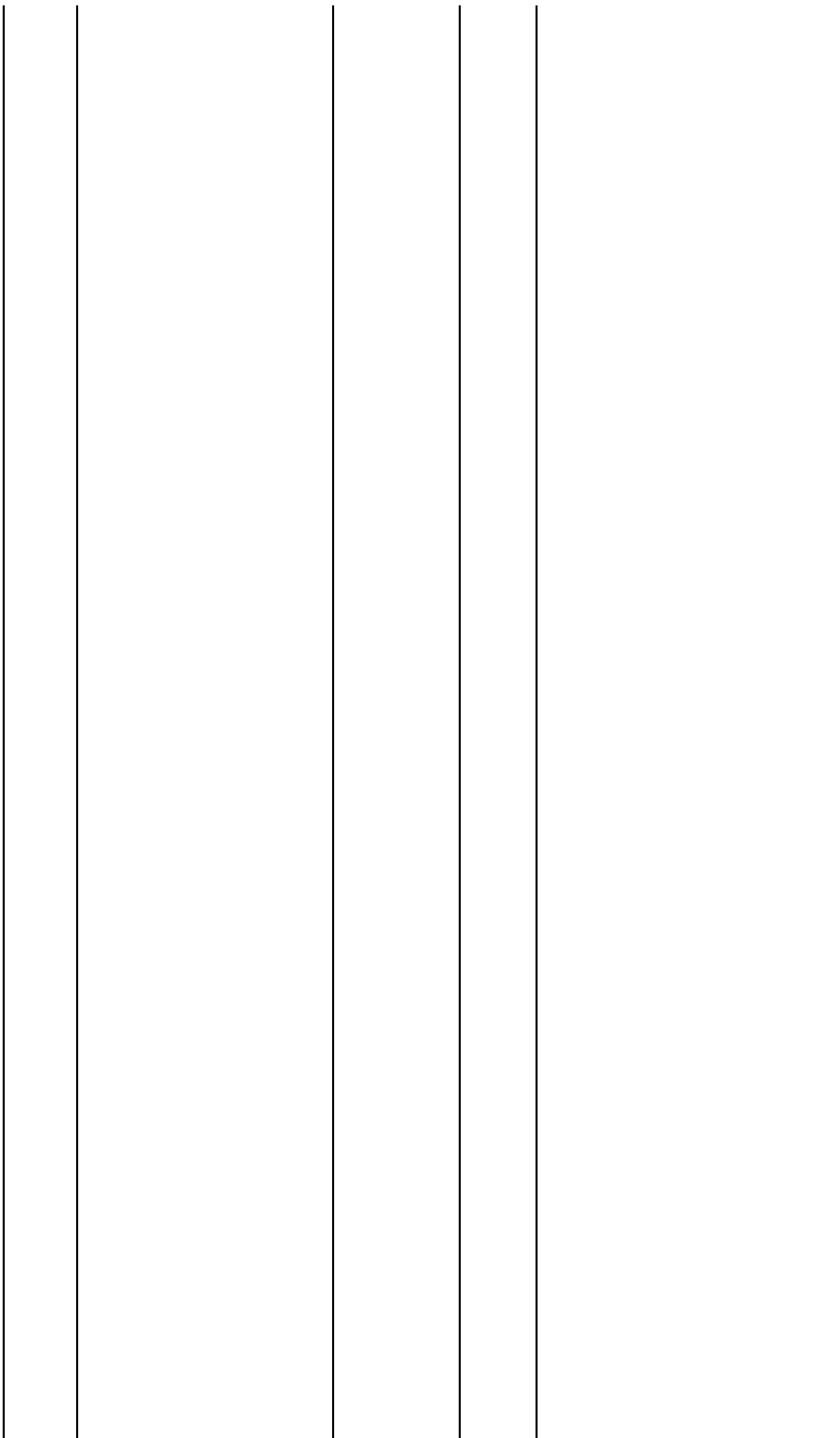
	Answer	Mark	Additional Guidance
(a)	30	1	B1 for 30
(b)	5	1	B1 for 5
Total for Question: 2 marks			

M50.

Working	Answer	Mark	Additional Guidance
$30 - (16 + 9)$	5	2	M1 $30 - "(16 + 9)"$ or $"30 - 16" - 9$ or $"30 - 9" - 16$ A1 cao
Total for Question: 2 marks			

M51.

	Working	Answer	Mark	Additional Guidance
QWC ii, iii	$\frac{1}{2} = \frac{4}{8}, \frac{1}{4} = \frac{2}{8}$	Coherent and well structured argument with appropriate reason	3	M1 to change both fractions to equivalent fractions M1 (dep on at least one correct equivalent fraction) to find midpoint C1 conclusion following correct work by stating that



Total for Question: 3 marks

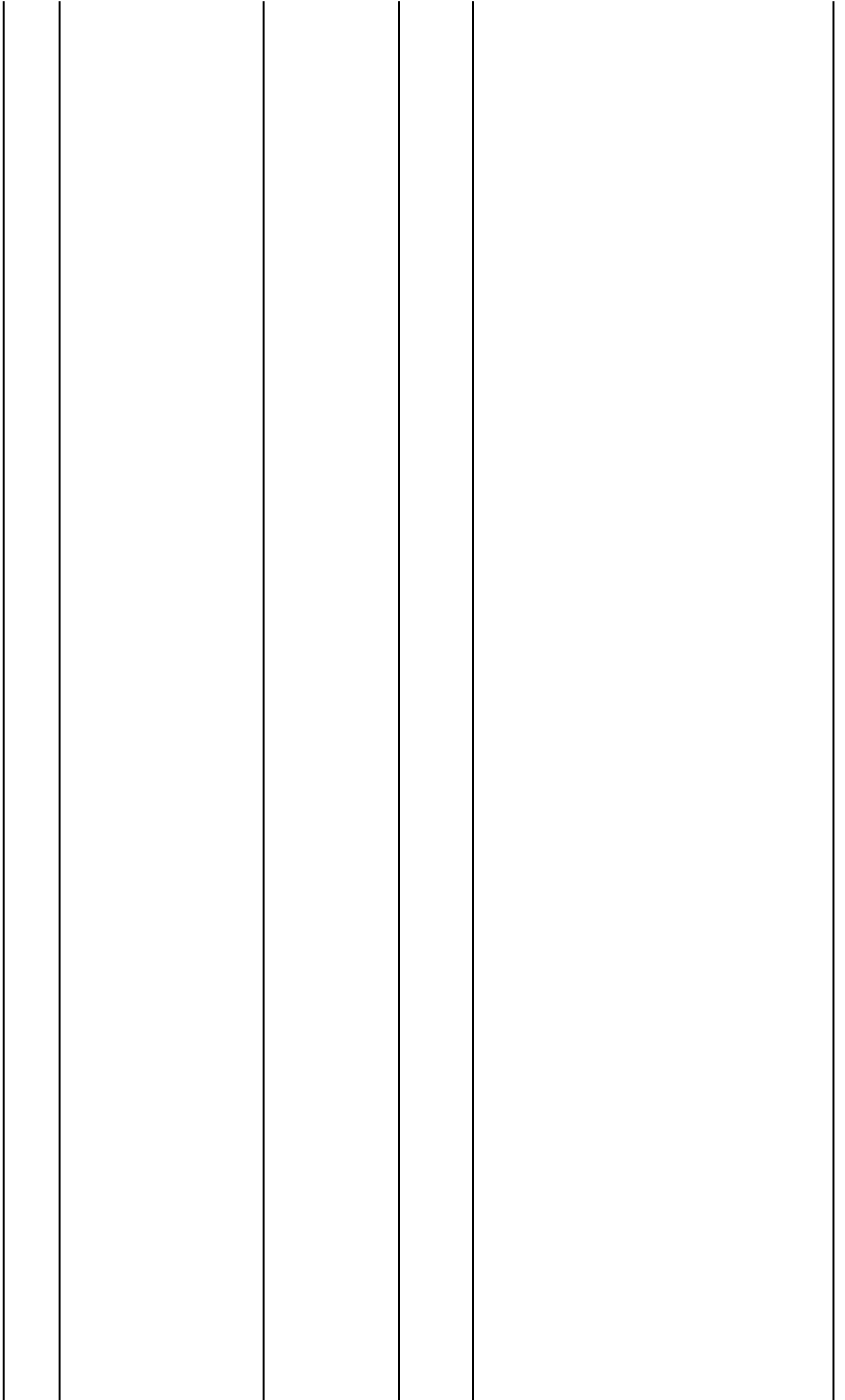
M52.

		Working	Answer	Mark	Additional Guidance
FE	(a)	$48 + 37 + 78 + 21 = 184$ $184 \times 40 = 7360$ $4 \times 12 = 48$ $73.60 + 48$	£121.60	4	M1 find the total miles M1 total miles $\times 40$ or $\times 0.4(0)$ M1 mileage expenses $+ 4 \times 12$ or $+ 5 \times 12$ A1 cao
	(b)	$2000 \div 50 = 40$ $4000 \div 40 = 100$ OR $2000 \div 0.4 = 50000$ $50000 - 50 = 100$ OR $0.4 \times 50 = 20$ $2000 \div 20 = 100$	100	3	M1 for sight of 2000 , or 50, or 20000 M1 dep for an attempt to find cost per week or mileage per year A1 100 OR M1 sight of 2000, or 50 M1 dep 0.4×50 and $2000 \div '20'$ A1 100
Total for Question: 7 marks					

M53.

	Working	Answer	Mark	Additional Guidance
(a)	$\frac{1}{2} \times \frac{1}{5}$	$\frac{1}{10}$	1	B1 oe

(b)	$\frac{1}{2} + \frac{3}{8} = \frac{4}{8} + \frac{3}{8} =$	$\frac{7}{8}$	2	M1 common denominators with at least one numerator correct or an unsimplified answer, or a fraction that is not completely
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M54.

		Working	Answer	Mark	Additional Guidance
FE	(a)		2 correct combinations	2	B1 Single burger and regular cola oe B1 Regular fries and regular cola oe -1 for each extra incorrect
	(b)	Best is Cost $3.49 + 1.70 = 5.19$ Change = $10.00 - 5.19$	£4.81	3	M1 2 correct individual costs found M1 sum and subtract from £10 A1 cao SC B2 5.24 (B1 $2 \times 1.70 + 0.99 + 0.85$ = (5.24))
Total for Question: 5 marks					

M55.

	Working	Answer	Mark	Additional Guidance
QWC i, ii, iii	50 shirts at £12 each = £600 Selling Price for profit of 30% = $£12 \times 1.3 = £15.60$ 20 shirts at £15.60 = £312 Reduced selling price = $£15.60 \times 0.85 = £13.26$ 30 shirts at £13.26 = £397.80	Yes, together with appropriately set out working which supports answer	8	B1 for price of 50 shirts M1 for $£12 \times 1.3$ A1 for £15.60 A1 for 20 shirts = £312 M1 for $£15.60 \times 0.85$ A1 for £13.26

	$£397.80 + £312 > £600$		A1 for 30 shirts = £397.80 C1 Yes stated together with a statement which supports the correct answer QWC: With clear working attributed correctly
Total for Question: 8 marks			

M56.

Working	Answer	Mark	Additional Guidance
$44 - 8 = 36$ $36 + 19 = 55$ $47 + 3 = 53$ OR $44 + 19 - 8 = 55$ $47 + 6 = 53$ OR $47 - 44 = 3$ $3 + 8 = 11$ $19 - 11 - 6 = 2$	2 (with appropriate reason)	2	M1 Clear attempt to find the number of spaces available on the bus after the bus stops A1 reason for answer which must comment on the difference between 55 and 53
Total for Question: 2 marks			

M57.

	Working	Answer	Mark	Additional Guidance
(a)		65	1	B1 cao
(b)	$5 - 3.8$	1.2	2	M1 $5 - 3.8$

				A1 cao	
					Total for Question: 3 marks