2021 Assessment resources
GCSE Maths

Number – Foundation

Answers and commentaries

The question numbers in this resource reflect the question numbers from the original papers and match the question numbers in the corresponding 2021 assessment materials

Question 5 (b)

Please see the mark scheme

Question 8 (a)

No examples available.

Commentary

The first mark is for selecting the correct two cards. The second mark is for adding whichever two cards they pick correctly. If the student just gives the answer of 9 or 9.0 and leaves the cards blank then they will score 1 mark.

Question 8 (b)

No examples available.

Commentary

Again, there is one mark for selecting the correct two cards but this time they also must be in the correct order. The second mark is for the right answer or the correct follow through answer. A common error would be 0.27 – 8.6 = 8.33 which scores B0B1.

Question 9 (a)

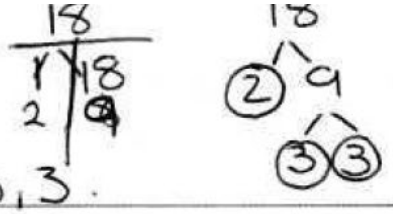
9 (a) Write down **all** the factors of 18

[2 marks]

Answer _____

Student A

9 (a) Write down **all** the factors of 18



[2 marks]

B 1

Answer 2, 9, 3, 3.

Commentary

The student gives three correct factors with no incorrect factors. The Additional Guidance says to ignore repeats for 1 mark.

1 mark

Student B

9 (a) Write down **all** the factors of 18

[2 marks]

B 1

Answer 1, 2, 3, 4, 6, 9,

Commentary

The student gives five correct factors with one incorrect.

1 mark

Student C

9 (a) Write down **all** the factors of 18

[2 marks]

Answer 2 x 2 x 3. B 0

Commentary

There are only two factors given with one repeated so this is insufficient for a mark.

0 marks

Question 5 (a)

5 (a) Work out 364.5 + 17.9 – 2.08

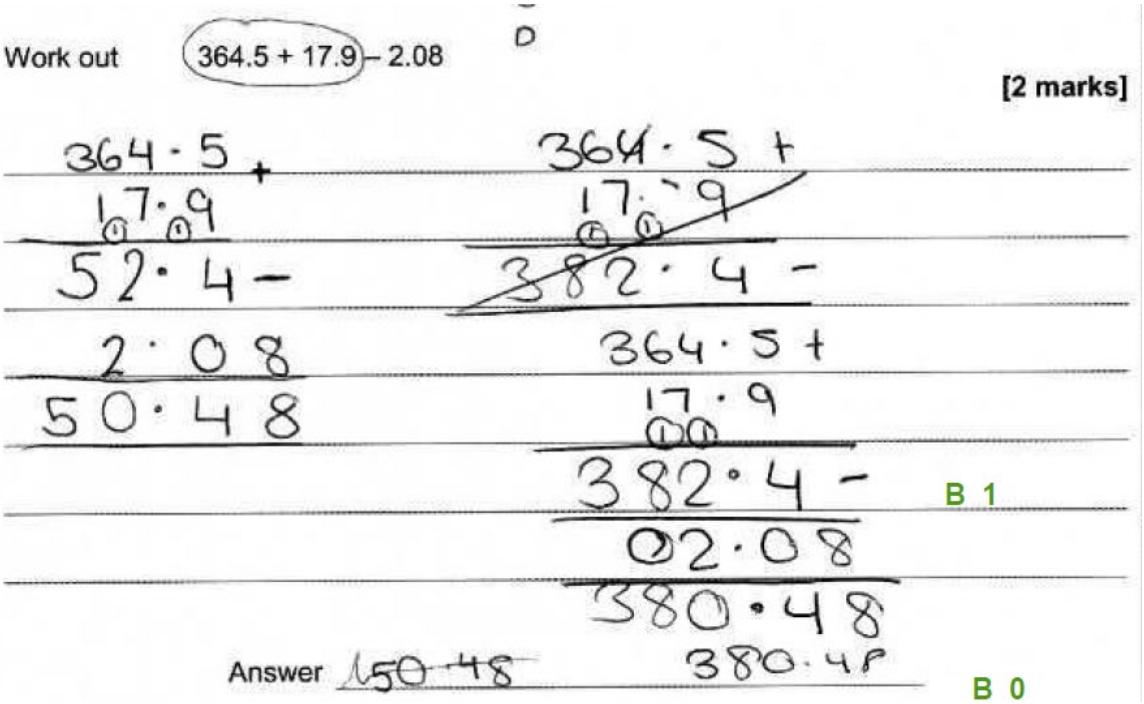
[2 marks]

Answer _____

Student A

5 (a) Work out (364.5 + 17.9) – 2.08

[2 marks]



B 1

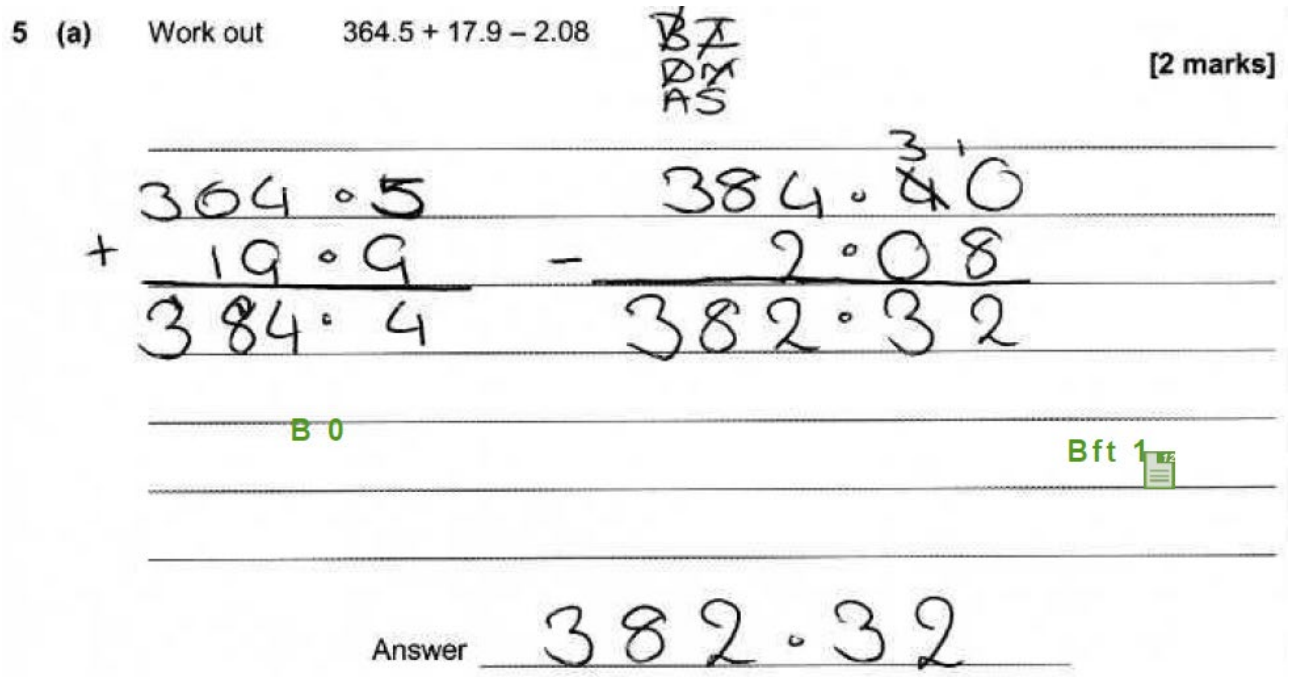
B 0

Commentary

There are two methods shown but the given answer comes from the right-hand method so that is the one that is marked. The student correctly adds the first two decimals for the first mark but then makes a common error in the subtraction.

1 mark

Student B



Commentary

The student has misread 17.9 as 19.9 so there are two ways to mark this answer. The first is to count it as a misread and the student has done everything correctly so would score 2 marks but loses 1 for the misread. The second is to ignore the misread and give B0 for the answer to the first calculation but then award B1 for the correct follow through subtraction. Either way it is one mark.
1 mark

Question 7

7 Amy and Brad each have some money.

Carly has no money.

Amy gives £7 to Carly.

Brad gives £5 to Carly.

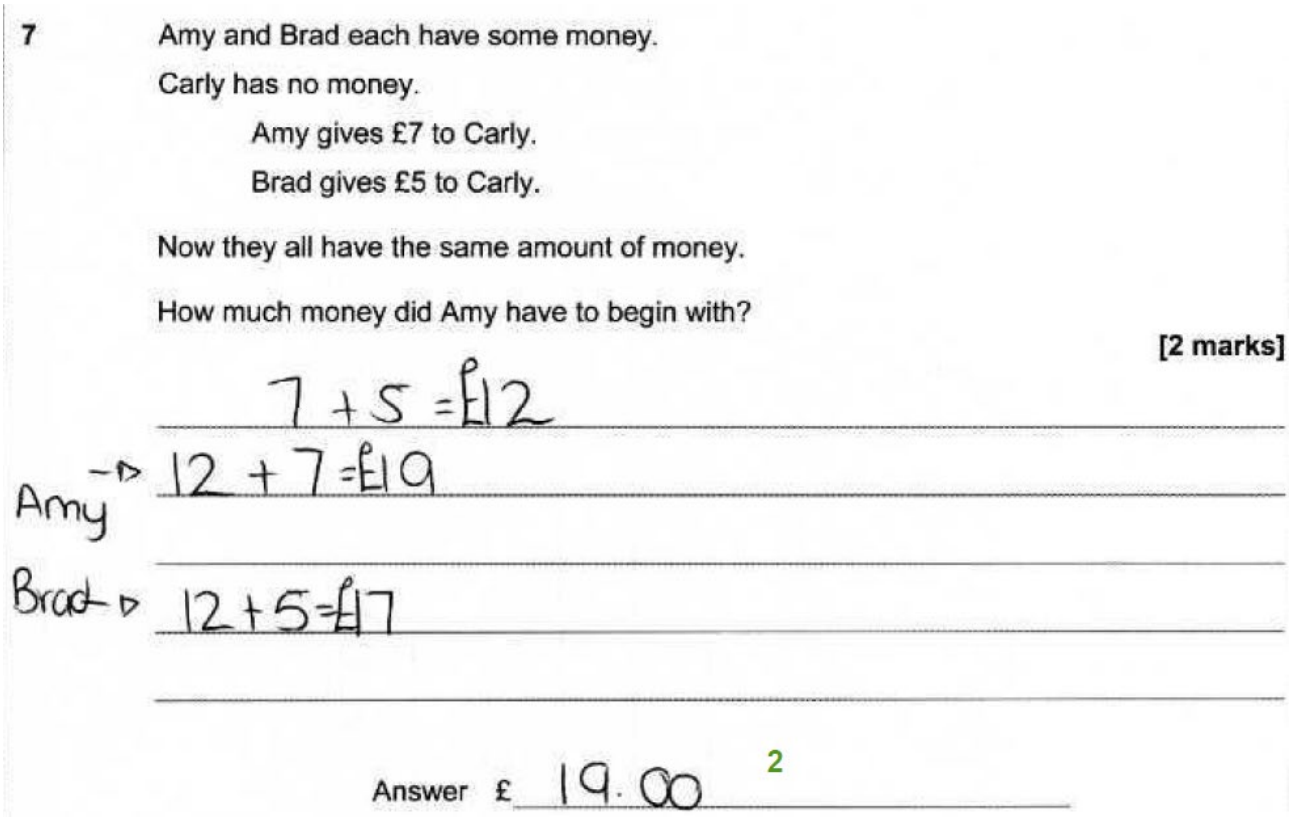
Now they all have the same amount of money.

How much money did Amy have to begin with?

[2 marks]

Answer £_____

Student A



7 Amy and Brad each have some money.

Carly has no money.

Amy gives £7 to Carly.

Brad gives £5 to Carly.

Now they all have the same amount of money.

How much money did Amy have to begin with?

[2 marks]

7 + 5 = £12

Amy → 12 + 7 = £19

Brad → 12 + 5 = £17

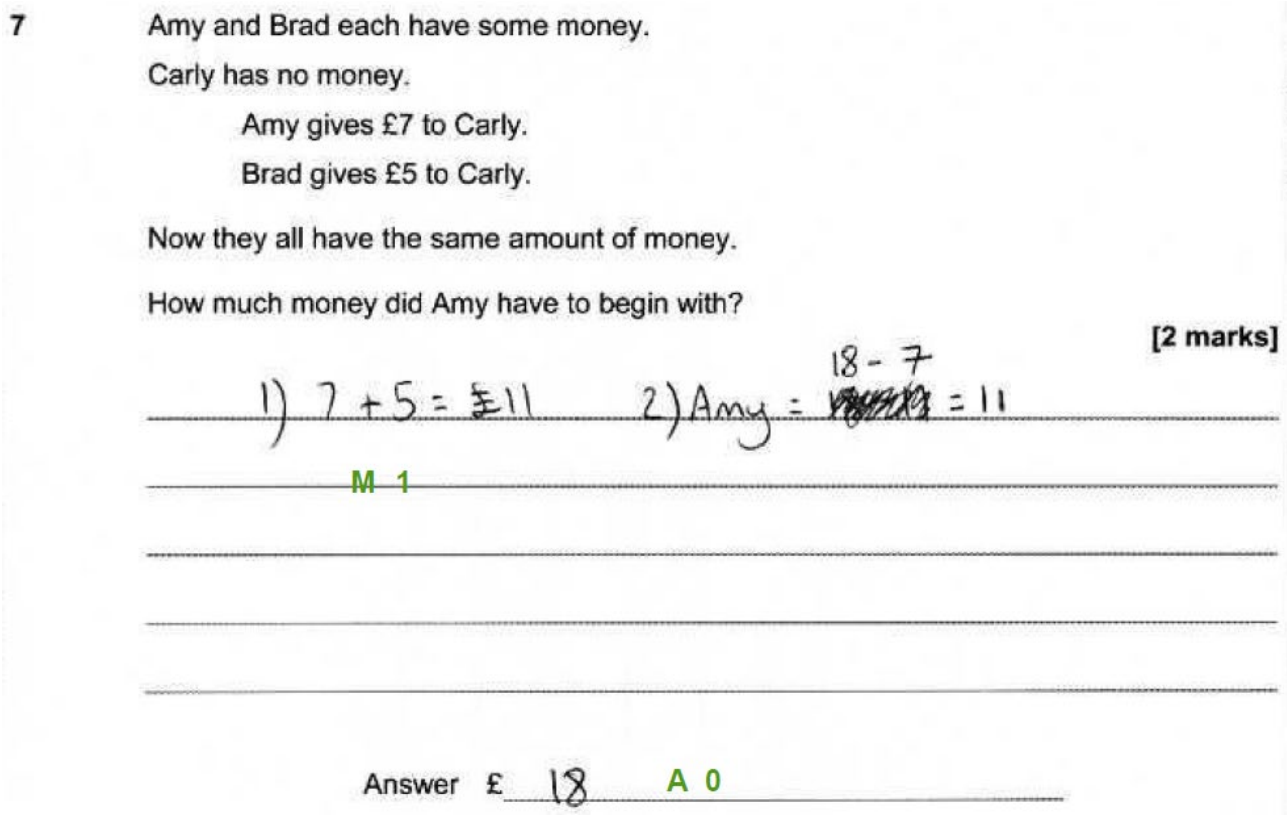
Answer £ 19.00 2

Commentary

Despite the incorrect working for Brad, the amount for Amy is correct.

2 marks

Student B



7 Amy and Brad each have some money.

Carly has no money.

Amy gives £7 to Carly.

Brad gives £5 to Carly.

Now they all have the same amount of money.

How much money did Amy have to begin with?

[2 marks]

1) 7 + 5 = £11 2) Amy = 18 - 7 = 11

M 1

Answer £ 18 A 0

Commentary

The correct method for Carly is seen even though an arithmetic error follows, so the student gains the first mark.

1 mark

Question 7 (a)

Please see the mark scheme

Question 8

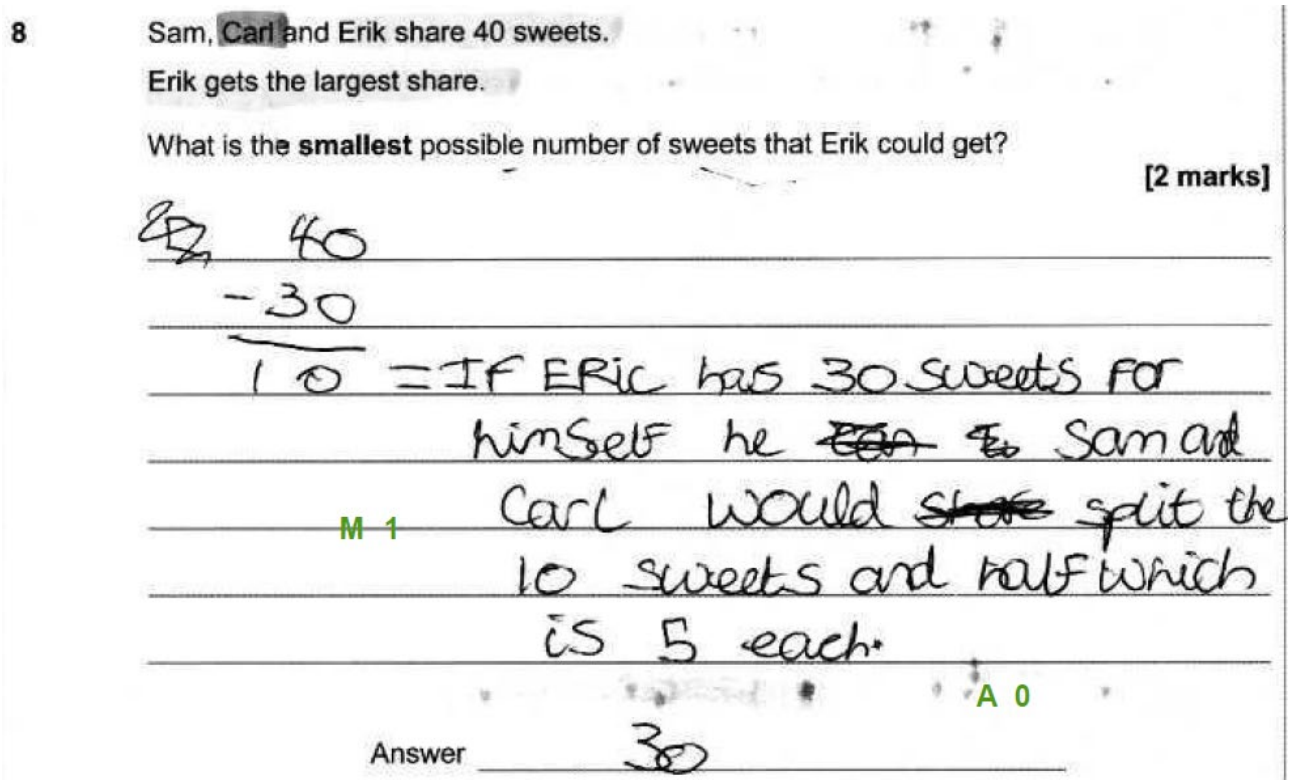
8 Sam, Carl and Erik share 40 sweets.
Erik gets the largest share.

What is the **smallest** possible number of sweets that Erik could get?

[2 marks]

Answer _____

Student A

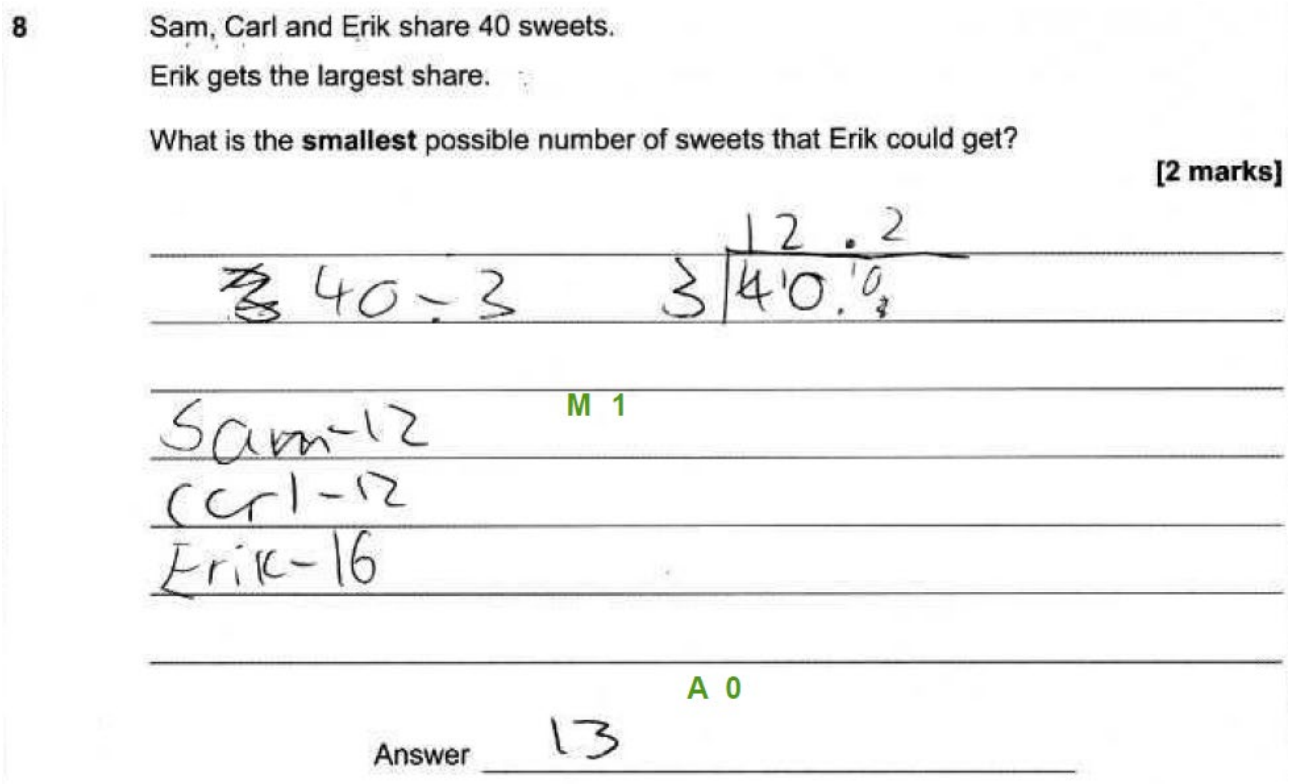


Commentary

The student has referred to 30, 5 and 5, which total 40, so scores the first mark by Alternative method 2.

1 mark

Student B



Commentary

The student either scores 1 mark for the calculation 40 ÷ 3 shown or 1 mark for three numbers that total 40. The Additional Guidance instructs us to use the scheme that awards the better mark so these would not be considered a choice of method here.

1 mark

Question 13

Please see the mark scheme

Question 9

9 The time in Rio is three hours behind London.
The time in New York is five hours behind London.

What is the time in New York when it is 1.00 am in Rio?

[2 marks]

Answer _____

Student A

9 The time in Rio is three hours behind London.
The time in New York is five hours behind London.

What is the time in New York when it is 1.00 am in Rio?

[2 marks]

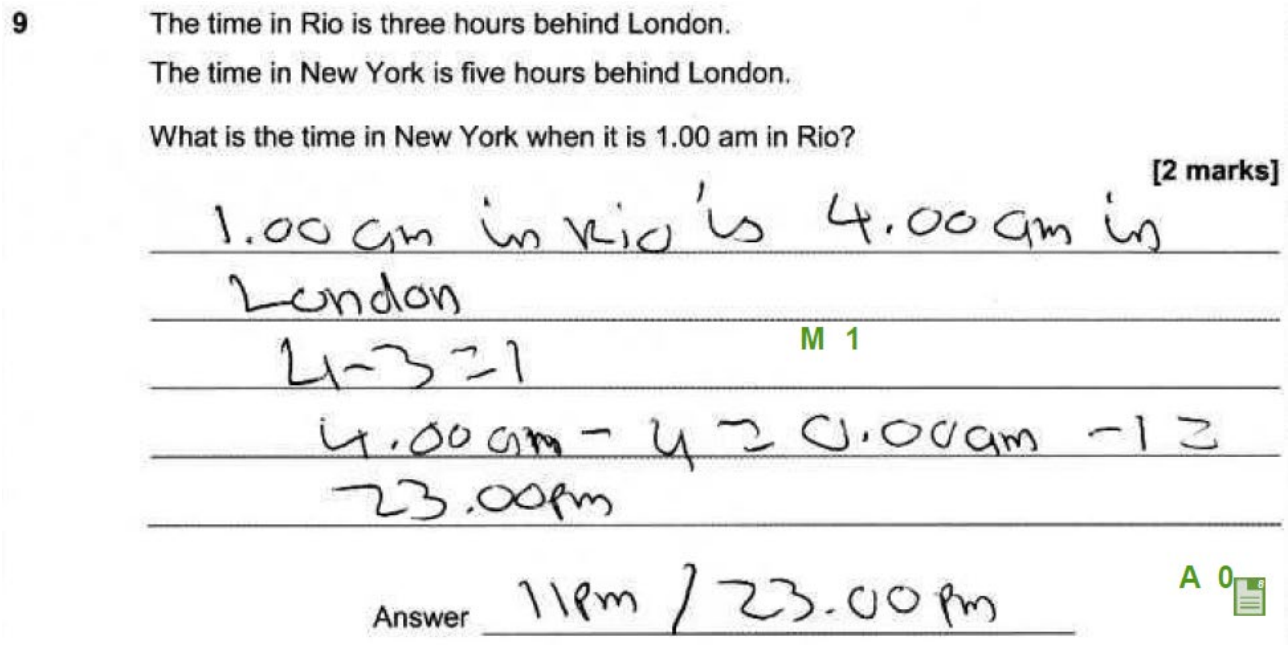
NY: 12:00
LN: 4:00 **M 1**
RIO: 1:00

Answer 12:00 **A 0**

Commentary

The student shows 4 which scores 1 mark as long as it is not linked with one of the other places.
1 mark

Student B



9 The time in Rio is three hours behind London.

The time in New York is five hours behind London.

What is the time in New York when it is 1.00 am in Rio?

[2 marks]

1.00 am in Rio is 4.00 am in London

4-3=1 M 1

4.00 am - 4 = 0.00 am -1 = 23.00pm

Answer 11pm / 23.00 pm A 0

Commentary

There is a choice of answers on the answer line. 11pm scores 2 marks but 23.00pm only scores 1 mark (see Additional Guidance) so we would award the lower mark.

1 mark

Question 16

No examples available

Commentary

Please see the Additional Guidance on the mark scheme for four marked solutions.

Question 12

Please see the mark scheme

Question 21

21 Billy wants to buy these tickets for a show.

4 adult tickets at £15 each

2 child tickets at £10 each

A 10% booking fee is added to the ticket price.

3% is then added for paying by credit card.

Work out the **total** charge for these tickets when paying by credit card.

[5 marks]

Answer £ _____

Student A

21 Billy wants to buy these tickets for a show.

4 adult tickets at £15 each

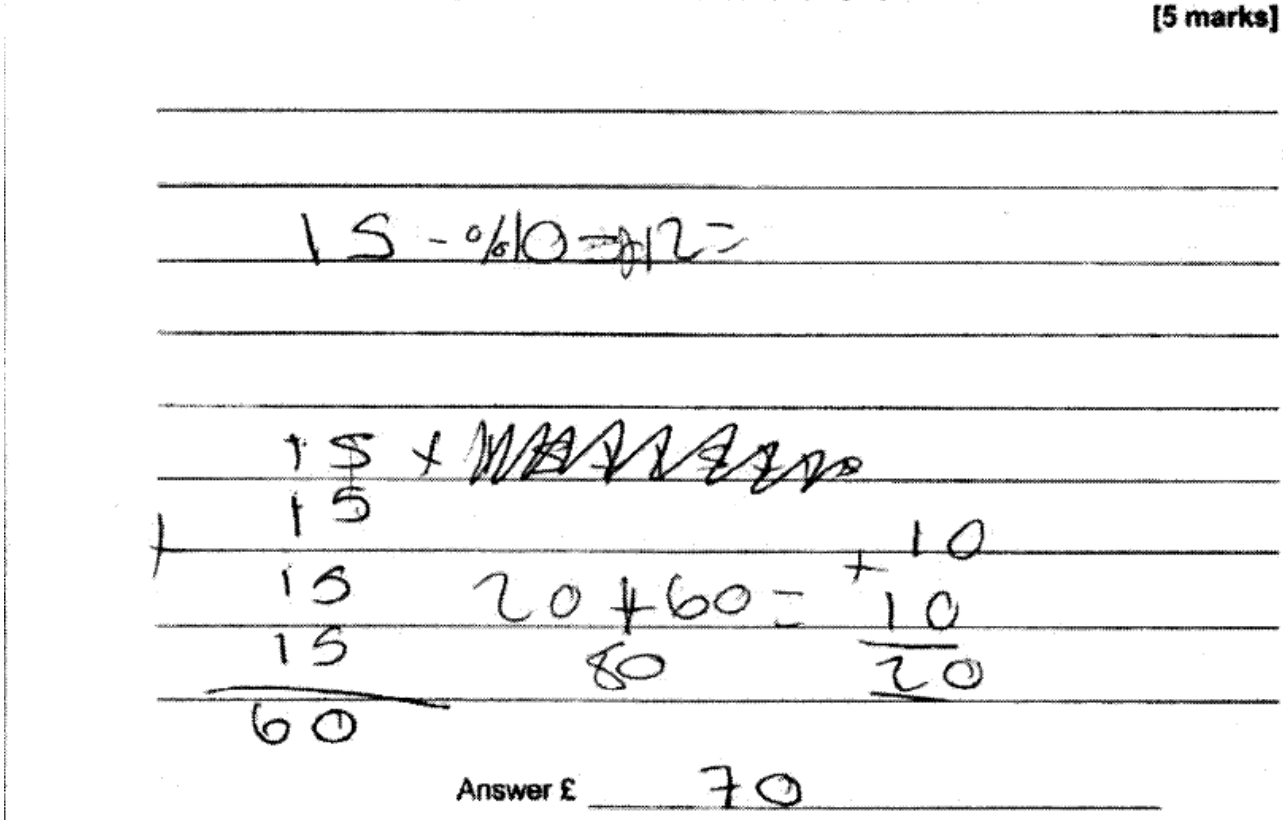
2 child tickets at £10 each

A 10% booking fee is added to the ticket price.

3% is then added for paying by credit card.

Work out the **total** charge for these tickets when paying by credit card.

[5 marks]



Commentary

The student has worked out the price of the adult tickets, the price of the child tickets and the total. Any one of these would gain the first mark. However, no correct percentage work is seen.

1 mark

Student B

21 Billy wants to buy these tickets for a show.

4 adult tickets at £15 each

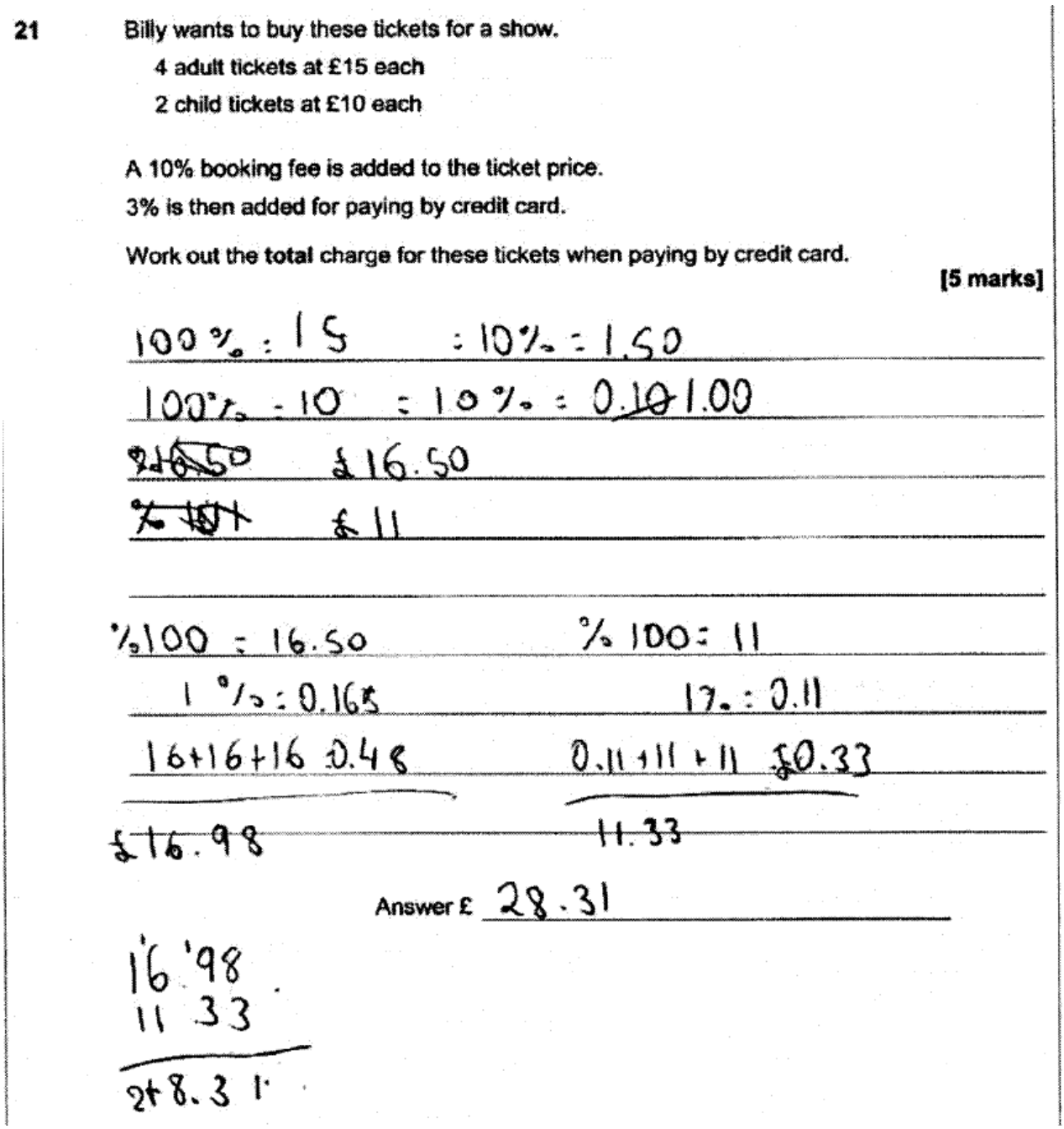
2 child tickets at £10 each

A 10% booking fee is added to the ticket price.

3% is then added for paying by credit card.

Work out the **total** charge for these tickets when paying by credit card.

[5 marks]



Commentary

Using Alternative method 2, the student has correctly worked out 10% of £15 and of £10 for the first mark. Then they have added this on to the original prices and shown the correct totals for both types of ticket for the second mark. The student has correctly worked out 3% of £11 but there is an error in the working for 3% of £16.50 (1% is correct but then the student truncates before adding). Both methods or answers are needed for the third mark. The next mark is dependent so no more marks can be gained.

2 marks

Student C

21 Billy wants to buy these tickets for a show.

4 adult tickets at £15 each

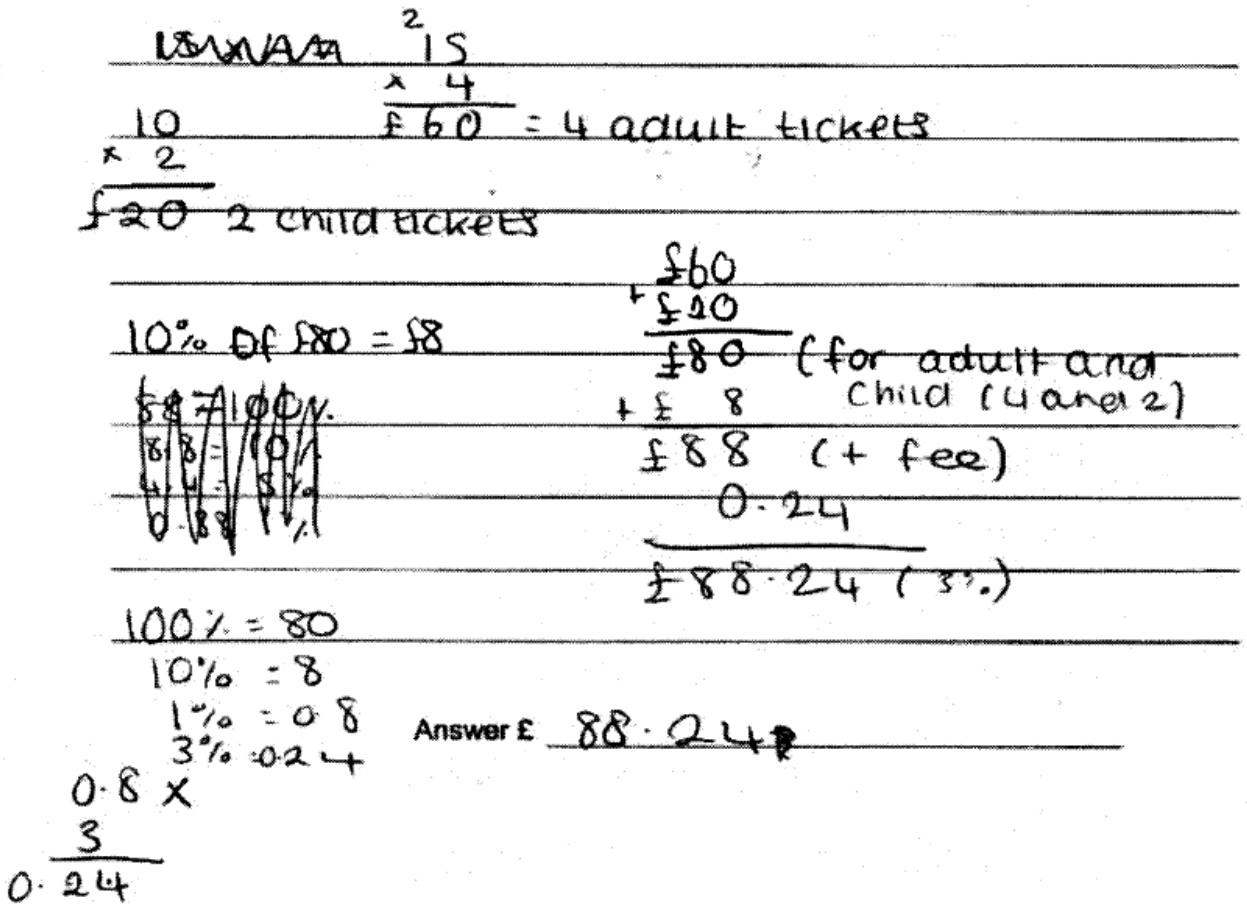
2 child tickets at £10 each

A 10% booking fee is added to the ticket price.

3% is then added for paying by credit card.

Work out the **total** charge for these tickets when paying by credit card.

[5 marks]



Commentary

The student has used Alternative method 1 and their working is correct as far as £88 so scores the first 3 marks. However, they then work out 3% of 80 rather than 88 so cannot gain any more marks. Note that even though their result for 3% is incorrect (it should have been £2.40 not 24p), they did show the full method so had they used £88 would have gained the fourth mark.

3 marks

Question 20

20 Work out $\sqrt{121} - (13 - 5 \times 2)^2$

[3 marks]

Answer _____

Student A

20 Work out $\sqrt{121} - (13 - 5 \times 2)^2$ B I D MAS → subtract. (indices, multiply)

[3 marks]

$(13 - 5 \times 2) = 3 \Rightarrow 3^2 = 9$. M 1

B 0 $\sqrt{121} = 7$

$7 - 9 = -2$

Aft 1

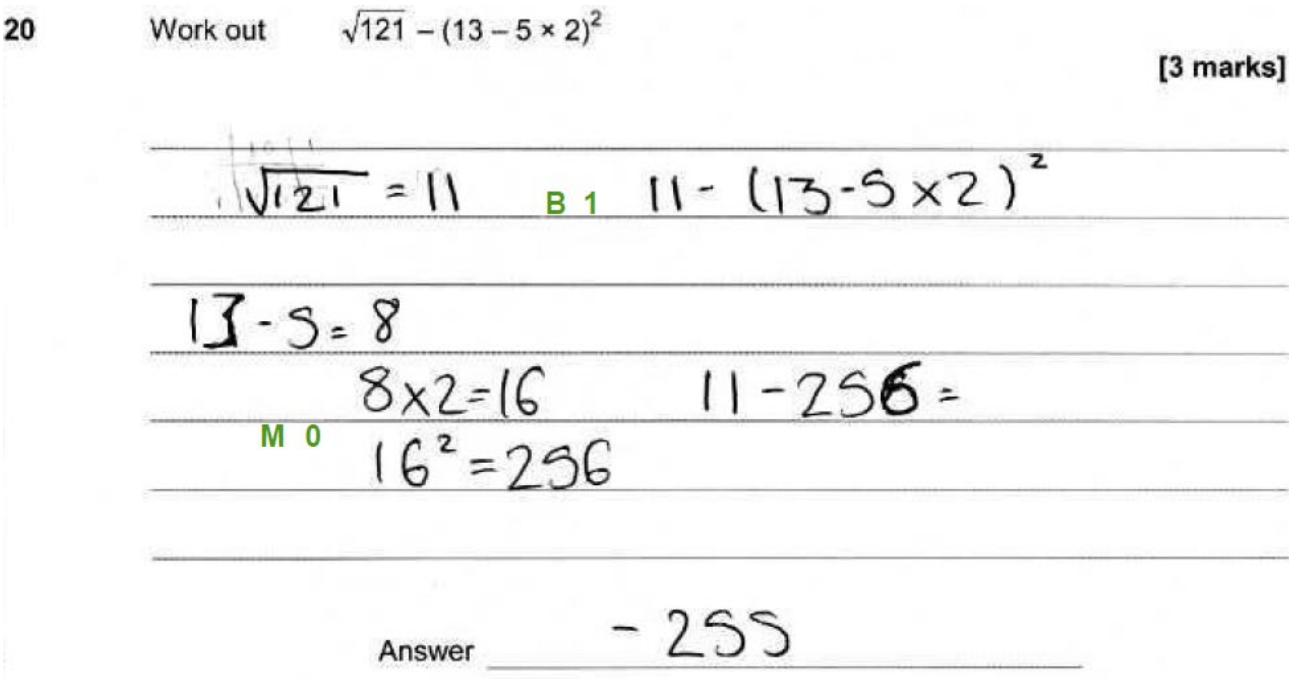
Answer -2

Commentary

The student loses the first mark because they think that the square root of 121 is 7. However, they have the correct method for the bracket and their answer follows through from their incorrect square root, so they gain the second and third marks.

2 marks

Student B

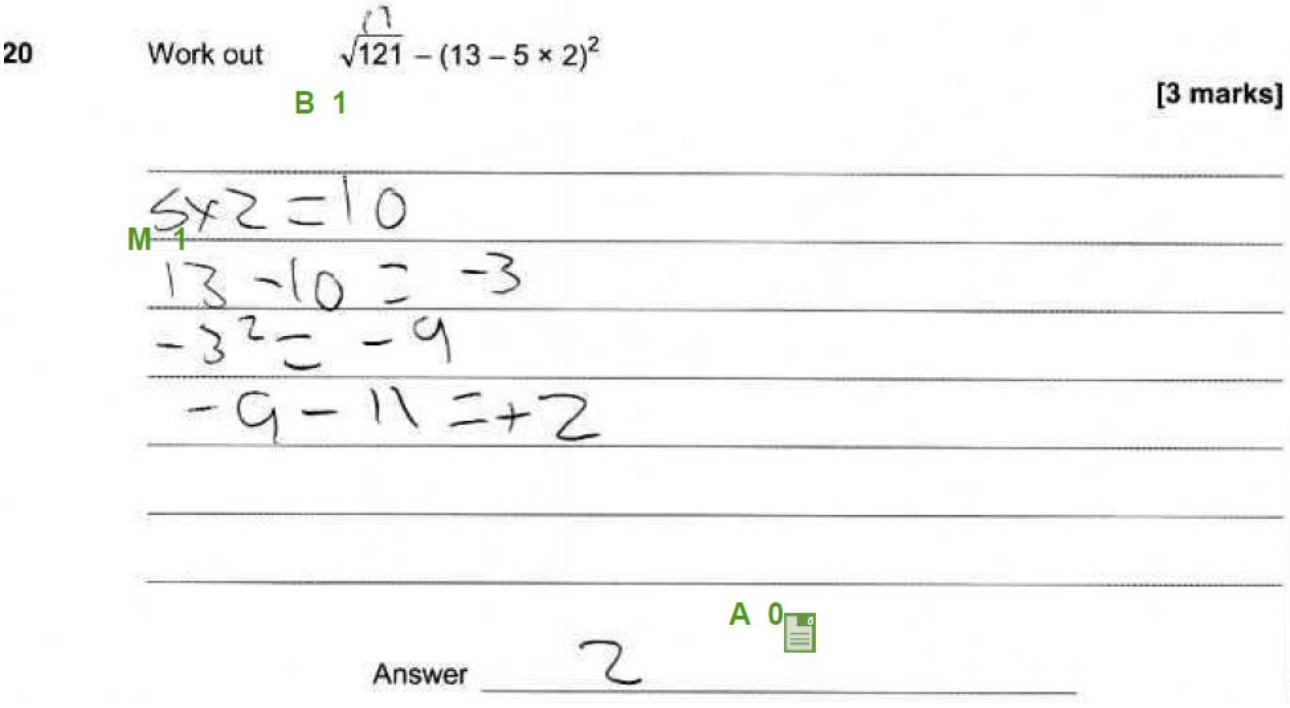


Commentary

The student gains the first mark for 11. They use the incorrect order of operations in the bracket so lose the second mark. Even if they had subtracted 11 – 256 correctly, there would be no follow through available for the last mark because they did not gain the M mark.

1 mark

Student C



Commentary

11 is written above the square root and scores the first mark. 13 – 10 scores the middle mark despite their incorrect evaluation. The final answer follows from clearly incorrect arithmetic so this loses the last mark.

2 marks

Question 25

25 Work out $8\frac{1}{2} \div 2\frac{2}{3}$

Give your answer as a mixed number.

[4 marks]

Student A

25 Work out $8\frac{1}{2} \div 2\frac{2}{3}$

Give your answer as a mixed number.

[4 marks]

$8\,{}^{1}/_{2} \div 2\,{}^{2}/_{3}$

$= \frac{9}{2} \div \frac{4}{3} = \frac{9}{2} \times \frac{3}{4} = \frac{18}{8}$

$= 2\,{}^{2}/_{8}$

M 0 M 1 A 0

Bft 1

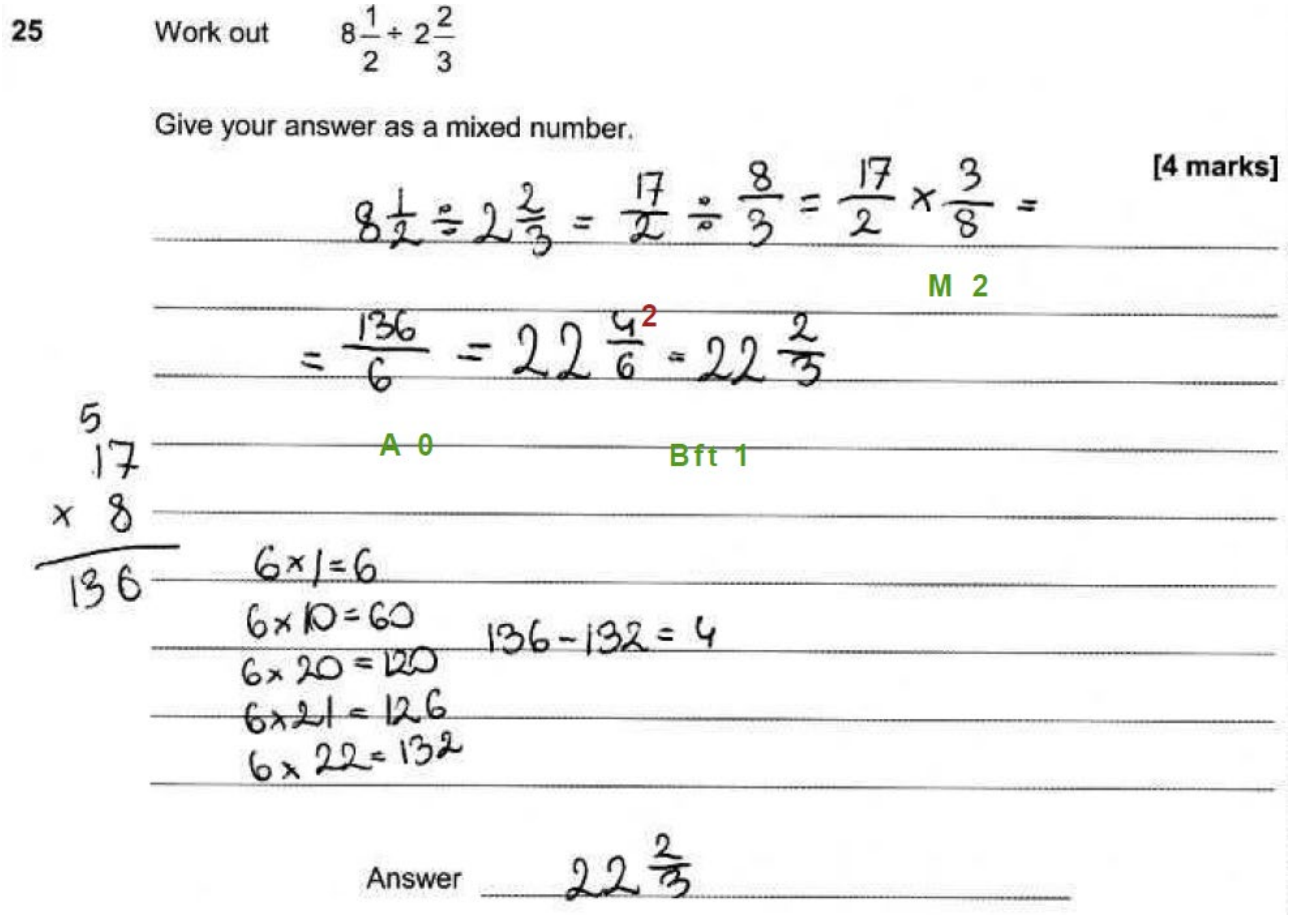
Answer $2\,{}^{1}/_{4}$

Commentary

The first two marks in the scheme are independent so the student can gain the second mark without the first. Here the student has converted both fractions incorrectly but then knows to invert and multiply so scores the second mark. The accuracy has been lost so they cannot gain the third mark, however the student does correctly convert their answer to a mixed number so gains the fourth mark.

2 marks

Student B

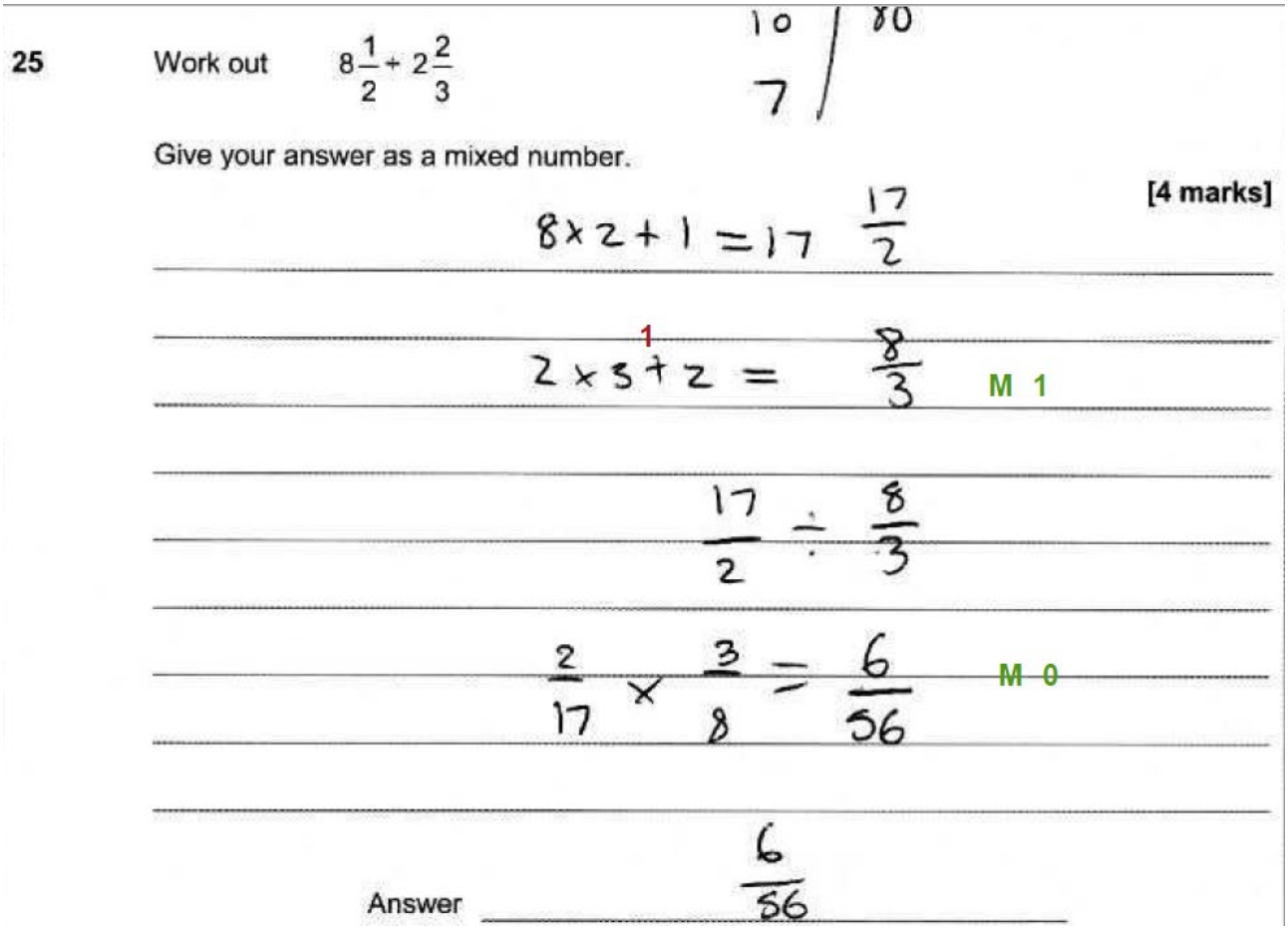


Commentary

The student has the correct method for the first two marks in line 1. However they then work out the answer incorrectly so lose the third mark. The final mark is gained for the correct conversion of their fraction to a mixed number.

3 marks

Student C



Commentary

The student gains the first mark for either of the first two fractions. When the student inverts and multiplies they invert both fractions, so this loses the second and third marks. Their answer is not an improper fraction so they cannot gain the B mark for conversion to a mixed number.

1 mark

Question 20

Please see the mark scheme