Functional Skills Level 1
MATHEMATICS
8361/2

Paper 2 Calculator

Mark scheme

March 2023

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

Glossary for Mark Schemes

Functional Skills examinations are marked in such a way as to award positive achievement wherever possible. Thus, for Functional Skills Mathematics papers, marks are awarded under various categories.

If a student uses a method which is not explicitly covered by the mark scheme the same principles of marking should be applied. Credit should be given to any valid methods. Examiners should seek advice from their senior examiner if in any doubt.

M	Method marks are awarded for a correct method which could lead to a correct answer.
A	Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
B	Marks awarded independent of method.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special case. Marks awarded for a common misinterpretation which has some mathematical worth.
M dep	A method mark dependent on a previous method mark being awarded.
B dep	A mark that can only be awarded if a previous independent mark has been awarded.
oe	Or equivalent. Accept answers that are equivalent. eg accept 0.5 as well as $\frac{1}{2}$
[a, b]	Accept values between a and b inclusive.
[a, b)	Accept values a ≤ value < b
3.14…	Accept answers which begin 3.14 eg 3.14, 3.142, 3.1416
Use of brackets	It is not necessary to see the bracketed work to award the marks.

Examiners should consistently apply the following principles.

Diagrams

Diagrams that have working on them should be treated like normal responses. If a diagram has been written on but the correct response is within the answer space, the work within the answer space should be marked. Working on diagrams that contradicts work within the answer space is not to be considered as choice but as working, and is not, therefore, penalised.

Responses which appear to come from incorrect methods

Whenever there is doubt as to whether a student has used an incorrect method to obtain an answer, as a general principle, the benefit of doubt must be given to the student. In cases where there is no doubt that the answer has come from incorrect working then the student should be penalised.

Questions which ask students to show working

Instructions on marking will be given but usually marks are not awarded to students who show no working.

Questions which do not ask students to show working

As a general principle, a correct response is awarded full marks.

Misread or miscopy

Students often copy values from a question incorrectly. If the examiner thinks that the student has made a genuine misread, then only the accuracy marks (A or B marks), up to a maximum of 2 marks are penalised. The method marks can still be awarded.

Further work

Once the correct answer has been seen, further working may be ignored unless it goes on to contradict the correct answer.

Choice

When a choice of answers and/or methods is given, mark each attempt. If both methods are valid then M marks can be awarded but any incorrect answer or method would result in marks being lost.

Work not replaced

Erased or crossed out work that is still legible should be marked.

Work replaced

Erased or crossed out work that has been replaced is not awarded marks.

Premature approximation

Rounding off too early can lead to inaccuracy in the final answer. This should be penalised by 1 mark unless instructed otherwise.

Continental notation

Accept a comma used instead of a decimal point (for example, in measurements or currency), provided that it is clear to the examiner that the student intended it to be a decimal point.

Section A

Q	Answer	Mark	Comments
1	$\dfrac{1}{6}$	B1	
	Additional Guidance		

Q	Answer	Mark	Comments
2	24.6(0)	B1	
	Additional Guidance		

Q	Answer	Mark	Comments
3	90 or right (angle)	B1	
	Additional Guidance		
	Quarter turn		B0

Q	Answer	Mark	Comments
4	3567	B2	B1 5776 or 2209
	Additional Guidance		
	3567^2		B1

Q	Answer	Mark	Comments
5	Attempt to convert all three to decimals, percentages or fractions with common denominator with at least two correct eg 0.66(…), 0.6, 0.62(5) or 66.(…)%, 60%, 62(.5)% or $\dfrac{80}{120}, \dfrac{72}{120}, \dfrac{75}{120}$	M1	allow 0.67 for $\dfrac{2}{3}$ and 0.63 for $\dfrac{5}{8}$ or equivalent for percentages
	$\dfrac{2}{3}, \dfrac{5}{8}, \dfrac{3}{5}$ with no incorrect values seen	A1	oe fractions, decimals, percentages SC1 reverse order

Additional Guidance	
0.66, 0.625, 0.6	M1A1
66%, 62.5% 60%	M1A1

Q	Answer	Mark	Comments
6	17	B2	B1 26 and 9 selected

Additional Guidance	
9 - 26 or 9 to 26	B1

Q	Answer	Mark	Comments
	14 × 10 or 140 or 7 × 5 or 35 or 17 × 5 or 85 or 10 × 9 or 90 or 10 × 5 or 50 or 14 × 17 or 238 or 7 × 9 or 63	M1	any rectangular area found must not be seen as part of a string of multiplications
7	14 × 10 + 7 × 5 or 140 + 35 or 17 × 5 + 10 × 9 or 85 + 90 or 10 × 5 + 7 × 5 + 10 × 9 or 50 + 35 + 90 or 14 × 17 − 7 × 9 or 238 − 63	M1dep	oe calculation for complete area of L-shape
	175	A1	

Additional Guidance		
Ignore any units		
Examples of multiplication strings 14 × 10 × 9 × 7 × 5 × 17 14 × 10 × 2 or 140 × 2 14 × 17 = 238, 238 ÷ 2		M0 M0 M0 (triangle area)

Section B

Q	Answer	Mark	Comments
	Alternative method 1		
	$6 + 6 + 7.5 + 7.5 + 6$ or 33	M1	oe
	their 33 × 26.5(0) or 874.5(0)	M1dep	
	1060 − their 874.5(0) or 185.5(0)	M1	their 874.5 > 26.5(0)
	26.5(0) × 2 or 53 or (1060 − their 874.5(0)) ÷ 26.5(0) or 7	M1	oe 7 'normal hours' to work scores M4
	(1060 − their 874.5(0)) ÷ their 53 or their 7 ÷ 2	M1dep	oe may be implied by their answer dep on previous M1
	3.5	A1	
8 (a)	**Alternative method 2**		
	6 × 26.5(0) or 159 or 7.5 × 26.5(0) or 198.75	M1	implied by 477 implied by 397.5(0)
	6 × 26.5(0) × 3 + 7.5 × 26.5(0) × 2 or 477 + 397.5(0) or 874.5(0)	M1dep	oe
	1060 − their 874.5(0) or 185.5(0)	M1	their 874.5 > 26.5(0)
	26.5(0) × 2 or 53 or (1060 − their 874.5(0)) ÷ 26.5(0) or 7	M1	oe 7 'normal hours' to work scores M4
	(1060 − their 874.5(0)) ÷ their 53 or their 7 ÷ 2	M1dep	oe may be implied by their answer dep on previous M1
	3.5	A1	

Mark scheme and additional guidance continue on the next page

	Alternative method 3		
	6 + 6 + 7.5 + 7.5 + 6 or 33	M1	oe
	1060 ÷ 26.5(0) or 40	M1	
	33 and 40	A1	may be implied by final answer
	their 40 – their 33 or 7	M1dep	dep on M2 7 'normal hours' to work scores 4 marks
	their 7 ÷ 2	M1dep	oe may be implied by their answer dep on previous M1
	3.5	A1	
8(a) cont'd	**Additional Guidance**		
	Answer 3.5 with no working		6 marks
	Allow 3 hours 30 mins for final answer		6 marks
	Answer 7 with no working		4 marks
	26.5(0) × 2 or 53 may be implied eg 185.5 ÷ 2 ÷ 26.5(0)		
	If Answer line is blank answer may be seen in the table. Answer line always takes precedence 3.5 in table for Saturday and 7 on the answer line		M1M1M1 M1M1A0
	Use the scheme that favours the student		

Q	Answer	Mark	Comments
8 (b)	**Alternative method 1**		
	28 × 11 or 308	M1	
	their 308 + 45 or 353 or 350 − their 308 or 42	M1dep	
	353 and No or 42 and No	A1	
	Alternative method 2		
	28 × 11 or 308	M1	
	350 − 45 or 305	M1	
	308 and 305 and No	A1	
	Alternative method 3		
	350 − 45 or 305	M1	
	their 305 ÷ 28 or 10.8(…) or 10.9	M1dep	
	10.8(…) and No or 10.9 and No	A1	
	Alternative method 4		
	350 − 45 or 305	M1	
	their 305 ÷ 11 or 27.7(…)	M1dep	
	27.7(…) and No	A1	
	Additional Guidance		
	No may be implied eg it is more (than £350)		
	Ignore any differences calculated eg 353 found and No its £4 more		M1M1A1
	28 × 11 + 45 × 11 or 308 + 495 (= 803)		M0M0A0

Q	Answer	Mark	Comments
8 (c)	**Alternative method 1**		
	64 ÷ 4 or 16	M1	
	64 − their 16 or 48	M1dep	$\dfrac{3}{4} \times 64$ implies M2
	their 48 × 1.45 or 69.6(0)	M1	their 48 cannot be 70
	69.6(0) and Yes	A1	
	Alternative method 2		
	64 ÷ 4 or 16	M1	
	64 − their 16 or 48	M1dep	$\dfrac{3}{4} \times 64$ implies M2
	70 ÷ 1.45 or 48.2(7…) or 48.3 or 70 ÷ their 48 or 1.458..	M1	
	48 and 48.2(7) and Yes or 48 and 48.3 and Yes or 1.458… and Yes	A1	

Mark scheme and additional guidance continue on the next page

8(c) cont'd	**Alternative method 3**		
	64 ÷ 4 × 1.45 or 23.2(0)	M2	M1 64 ÷ 4 or 16 or 64 × 1.45 or 92.8(0)
	their 92.8(0) − their 23.2(0) or their 23.2(0) × 3 or 69.6(0) or their 92.8(0) − 70 or 22.8(0)	M1dep	dep on M2
	69.6(0) and Yes or 23.2(0) and 22.8(0) and Yes	A1	
	Alternative method 4		
	64 ÷ 4 or 16	M1	
	70 ÷ 1.45 or 48.2(7…) or 48.3	M1	
	64 – their 48.2(7) or 15.73	M1dep	dep on previous M1
	16 and 15.73 and Yes	A1	
	Additional Guidance		
	Use the scheme that favours the student In Alt 1 working out 16 or 48 means they must then multiply their value by 1.45 to be awarded the 3rd mark eg 64 ÷ 4 = 16 64 × 1.45 = 92.8(0) 64 is not their 16 or their 48 so only 1 mark can be awarded (on Alt 1 or Alt 3)		M1M0 M0

Q	Answer	Mark	Comments
	Alternative method 1		
	570 ÷ 10 or 57	M1	oe
	45.75 × 12 or 549	M1	
	their 57 + their 549 or 606	M1dep	dep on M2
	their 606 − 570 or 36 or 570 + 35 or 605	M1	their 606 > 570
	36 and Yes or 606 and 605 and Yes	A1	
	Alternative method 2		
9 (a)	570 ÷ 10 or 57	M1	oe
	570 − their 57 or 513	M1dep	dep on M1
	45.75 × 12 or 549	M1	
	their 549 − their 513 or 36	M1dep	dep on previous M1 with their 513 < their 549
	36 and Yes	A1	
	Alternative method 3		
	570 ÷ 10 or 57	M1	oe
	570 − their 57 or 513	M1dep	
	their 513 ÷ 12 or 42.75	M1	their 513 < 570
	(45.75 − their 42.75) × 12 or 36	M1	their 42.75 < 45.75
	36 and Yes	A1	

Mark scheme and additional guidance continue on the next page

9(a) cont'd	**Alternative method 4**		
	45.75 × 12 or 549	M1	
	570 – their 549 or 21	M1dep	
	570 ÷ 10 or 57	M1	
	570 ÷ 10 − their 21 or 36 or 570 ÷ 10 − 35 or 22 or their 21 + 35 or 56	M1	their 21 must be from 570 – their total monthly payments
	36 and Yes or 21 and 22 and Yes or 56 and 57 and Yes	A1	
	Additional Guidance		
	Do not award the M1 for 45.75 × 12 if they clearly do not attempt to include the 75p in their multiplication		

Q	Answer	Mark	Comments
9 (b)	At least 2 of 21, 30 and 28	M1	at least two correct heights for Year 8, Year 9 and Year 10 may be on graph may be implied
	115 − (their 21 + their 30 + their 28) or 115 − 79 or 36	M1dep	may be implied by bar heights
	their 36 ÷ 3 or 12	M1dep	implied by bar height 12 for Year 7
	(Year 7 =) 12 and (Year 11 =) 24 with no incorrect work seen	A1	implied by correct bars
	Correct bars for their two heights For ft heights must be stated in working or on the bar or correct for their 36	B2ft	±½ square ft their 12 and their 24 must also be correct widths and spacing B1ft one bar correct height SC1 Year 11 height is twice Year 7 height (but not 24 and 12) SC2 Bars for Y7 + Y11 total 36

Additional guidance is on the next page

9(b) cont'd	**Additional Guidance**	
	Bars drawn with Y7 at 24 and Y11 at 12 with no incorrect working	5 marks
	If their 36 is not divisible by 3 allow rounding or truncating. eg heights 21, 30 and 27 used $115 - 78 = 37$ $37 \div 3 = 12.3$ $12.3 \times 2 = 24.6 = 25$ heights Year 7 12 and Year 11 25 drawn correctly	M1 M1 M1 A0 B2ft
	The SC's are for no working shown and no values for Y7 and Y11 stated eg no working seen just bar for Y7 is 11 and Y11 is 25 (implies 36 calculated) If any working is seen then follow that for the bars eg states Y7 is 10 and Y11 is 25 then draws bars at 11 and 25	SC2 M0M0M0A0 B1ft
	No working but states incorrect Y7 and Y11, heights can gain up to B2 ft eg States Y7 = 35 and Y11 = 35 then draws both bars to height 35	M0M0M0A0 B2ft
	eg $115 - 79 = 36$ $36 \div 2 = 18$ bars both drawn at 18	M1M1M0A0 B2ft
	If two values are stated but not attributed to the year group then assume the smaller is Y7 for the ft marks	
	79 implies the first M1 unless correct value(s) for the bar seen	

Q	Answer	Mark	Comments
10 (a)	Exactly one rectangle of size 10 squares by 2 squares (main table)	B1	
	Exactly two rectangles of size 4 squares by 2 squares (guest tables)	B1	
	Exactly one rectangle of size 2 squares by 1 square (cake table)	B1	
	All their tables labelled	B1	may not be correct size or shape must be at least one of each type accept letters eg M, G, C or identification by labelling original dimensions
	All tables have at least 1 metre (2 squares) space all around	B1	must be at least 3 tables drawn of any size

Additional Guidance	
Labels are only required for the 4th mark	
Ignore extra irrelevant items eg dance floor	
For the first three marks they do not need to label the shapes but any labels given must be correct	

Q	Answer	Mark	Comments	
10 (b)	**Alternative method 1**			
	5 × 3 or 15	M1	oe	
	6 with 15 seen	A1		
	Alternative method 2			
	1 (bouquet) → 18 left 2 (bouquet) → 15 left 3 (bouquet) → 12 left 4 (bouquet) → 9 left 5 (bouquet) → 6 left	M1	oe eg build up with multiples or ratio condone one error in multiples	
	6 with method seen	A1		
	Additional Guidance			
	6 without 15 or a full method seen			M0A0
	For Alt 2 the final 5 bouquets does not have to be stated if answer is 6			

Q	Answer	Mark	Comments
10 (c)	**Alternative method 1**		
	30 ÷ 20 or 1.5	M1	oe
	their 1.5 × 850 or 1275 or their 1.5 × 180 or 270	M1dep	850 + 425 or 180 + 90 implies M2
	their 1275 − 1000 or their 1275 ÷ 1000 − 1 or 0.275	M1	their 1275 > 1000 may be implied
	their 270 − 140	M1	their 270 > 180 may be implied
	(dried fruit) 275	A1	
	(butter)130	A1	
	Alternative method 2		
	850 ÷ 2 or 425 or 180 ÷ 2 or 90	M1	oe eg scaling down to 1
	their 425 × 3 or 1275 or their 90 × 3 or 270	M1dep	oe eg 850 + their 425 scaling up to 30
	their 1275 − 1000 or their 1275 ÷ 1000 − 1 or 0.275	M1	their 1275 > 1000 may be implied
	their 270 − 140	M1	their 270 > 180 may be implied
	(dried fruit) 275	A1	
	(butter) 130	A1	

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10(c) cont'd	**Alternative method 3**		
	850 ÷ 2 or 425 or 180 ÷ 2 or 90	M1	oe
	1000 − 850 or 150 or 180 − 140 or 40	M1	oe eg 40 short or − 40
	850 ÷ 2 − (1000 − 850) or 425 − 150	M1	implies 1st and 2nd M1
	180 ÷ 2 + (180 − 140) or 90 + 40	M1	implies 1st and 2nd M1
	(dried fruit) 275	A1	
	(butter) 130	A1	

Additional Guidance		
Both answers correct with no working		6 marks
One answer correct and one incorrect with no working gains 4 marks eg 275 fruit but butter incorrect eg fruit incorrect but butter 130		M1M1M1M0 A1A0 M1M1M0M1 A0A1
One answer correct and one incorrect with working may score 5 marks eg 850 ÷ 2 = 450, 450 + 850 = 1300 180 ÷ 2 = 90, 180 + 90 = 270, 270 − 140 300 g fruit needed and 130 g butter needed		M1M1M1M1 A0A1
In Alt 2 other scaling may be used. Eg scaling down for 5 then up to 30		
Use of incorrect conversion factor can score up to 4 marks eg 100 used gives dried fruit = 1275 − 100 = 1175 and butter 130		M1M1M0M1 A0A1
Allow answer(s) in kg only if units are changed on the answer line		
Working may be seen on or next to table eg + 90 next to 180 grams butter		M1M1
Alts may be mixed eg fruit from Alt 1 and butter from Alt 2		

Q	Answer	Mark	Comments
11(a)	62 × 1.20 or 74.4(0)	M1	
	325 + 234 + 282 + their 74.4(0) or 915.4(0)	M1	their 74.4(0) can be 1.2(0) their 74.4(0) cannot be from 62 + 1.20 oe eg 841 + their 74.4(0)
	950 − their 915.4(0) or 34.6	M1dep	dep on 2nd M1 950 − 325 − 234 − 282 − their 74.4(0) implies 2nd and 3rd M1
	34.60	A1	correct money notation SC1 109 SC1 45.80

	Additional Guidance	
	Ignore rounding to 35 if 34.60 seen	
	Dividing by 1.20 can score max 2 marks eg 62 ÷ 1.20 = 51.66 325 + 234 + 282 + 51.66 = 892.66 950 − 892.66 = 57.33	M0 M1 M1A0
	The SC1 for 109 is for ignoring the cake sales	
	The SC1 for 45.80 is from adding 62 and 1.20 to 841 and subtracting from 950 Must be correct money notation	

Q	Answer	Mark	Comments
11 (b)	1.5 × 0.7 × 0.3 or 0.315	M1	
	their 0.315 ÷ 0.05 or 6.3	M1	oe their 0.315 does not have to be a volume but cannot be a single length from the diagram may be implied by their answer
	7 with correct method for volume or 0.315 seen or 6.3 seen	A1	
	Additional Guidance		
	Common error -adding the dimensions 1.5 + 0.7 + 0.3 = 2.5 2.5 ÷ 0.05 = 50		M0M1A0
	7 with no working		zero
	6.3 seen (with no other working) Will also score A1 when rounded to 7		M1M1
	Eg 0.315 ÷ 0.05 = 6.5 Answer 7 Error seen so full marks not awarded		M1M1A0
	Dividing by 0.05^3		2nd M0

Q	Answer	Mark	Comments
	Alternative method 1		
	28 + 28 + 22 + 10 + 10 or 98	M1	oe summing 5 lengths 3181.08 implies 98
	their 98 ÷ 2 or 49	M1	oe eg 28 ÷ 2 + 28 ÷ 2 + 22 ÷ 2 + 10 ÷ 2 + 10 ÷ 2 is M2 their 98 must be the sum of at least 3 lengths
11 (c)	their 49 × 32.46 or 1590.(54) or 1600 ÷ their 49 or [32.65, 32.66] or 1600 ÷ 32.46 or 49.2(9…)	M1	oe their 49 must be half their perimeter
	1590.(54) and Yes or [32.65, 32.66] and Yes or 49 and 49.2(9…) and Yes	A1	
	Alternative method 2		
	28 + 28 + 22 + 10 + 10 or 98	M1	oe summing 5 lengths
	32.46 ÷ 2 or 16.23	M1	
	their 98 × their 16.23 or 1590.(54) or 1600 ÷ their 16.23 or [98.58, 98.6] or 1600 ÷ their 98 or 16.3(…)	M1dep	dep on previous M1 their 98 must be the sum of at least 3 lengths
	1590.(54) and Yes or 98 and [98.58, 98.6] and Yes or 16.23 and 16.3… and Yes	A1	

Mark scheme and additional guidance continue on the next page

	Alternative method 3		
	At least two different lengths divided by 2 28 ÷ 2 and 22 ÷ 2 and 10 ÷ 2 or 20 ÷ 2 or two of 14 and 11 and 5	M1	5 may be 10 if clearly from 2 lots of 10 ÷ 2
11(c) cont'd	(28 ÷ 2) × 32.46 or 454.44 or (22 ÷ 2) × 32.46 or 357.06 or (10 ÷ 2) × 32.46 or 162.3 or (20 ÷ 2) × 32.46 or 324.6	M1	oe cost for 1 length
	(28 ÷ 2) × 32.46 × 2 + (22 ÷ 2) × 32.46 + (10 ÷ 2) × 32.46 × 2 or 454.44 × 2 + 357.06 + 162.3 × 2 or 1590.(54)	M1	oe totalling all 5 lengths
	1590.(54) and Yes	A1	
	Additional Guidance		
	If less than the 5 correct lengths are included then a maximum of 2 marks can be awarded		
	908.88 and 324.6 must be clearly from using 2 lengths of 28 or 2 lengths of 10 to score 2nd M1 in Alt 3 28 × 32.46 = 908.88 without evidence of 2 lengths used		M0M0
	Rounding or truncating values or ignoring the pence will lose the final A1		