# Functional Skills Level 1 MATHEMATICS 8361/2 <br> Paper 2 Calculator 

Mark scheme
March 2023
Version: 1.0 Final

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.

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## 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

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 $\quad$ 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) $\quad$ Accept values $\mathrm{a} \leq$ value $<\mathrm{b}$
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 | $\frac{1}{6}$ |  | 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 |  |  | B0 |
|  | Quarter turn |  |  |  |


| Q | Answer |  | Mark | Comments |  |
| :---: | :---: | :---: | :--- | :--- | :---: |
| 4 | 3567 |  | B2 | B1 5776 or 2209 |  |
|  | Additional Guidance |  |  | B1 |  |
|  | $3567^{2}$ |  |  |  |  |


| Q | Answer | Mark | Comments |  |
| :---: | :---: | :---: | :---: | :---: |
| 5 | Attempt to convert all three to decimals, percentages or fractions with common denominator with at least two correct <br> eg $0.66(\ldots), 0.6,0.62(5)$ <br> or 66.(...)\%, 60\%, 62(.5)\% <br> or $\frac{80}{120}, \frac{72}{120}, \frac{75}{120}$ | M1 | allow 0.67 for $\frac{2}{3}$ and 0.63 for $\frac{5}{8}$ or equivalent for percentages |  |
|  | $\frac{2}{3}, \frac{5}{8}, \frac{3}{5}$ with no incorrect values seen | A1 | oe fractions, decimals, percent SC1 reverse order |  |
|  | Additional Guidance |  |  |  |
|  | 0.66, 0.625, 0.6 |  |  | M1A1 |
|  | 66\%, 62.5\% 60\% |  |  | M1A1 |


| Q | Answer |  | Mark | Comments |  |
| :---: | :--- | :---: | :--- | :---: | :---: |
| $\mathbf{6} \mathbf{6}$ | 17 |  | B2 | B1 26 and 9 selected |  |
|  | Additional Guidance |  |  | B1 |  |
|  | $9-26$ or 9 to 26 |  |  |  |  |


| Q | Answer | Mark | Comments |  |
| :---: | :---: | :---: | :---: | :---: |
| 7 | $\begin{aligned} & 14 \times 10 \text { or } 140 \\ & \text { or } \\ & 7 \times 5 \text { or } 35 \\ & \text { or } \\ & 17 \times 5 \text { or } 85 \\ & \text { or } \\ & 10 \times 9 \text { or } 90 \\ & \text { or } \\ & 10 \times 5 \text { or } 50 \\ & \text { or } \\ & 14 \times 17 \text { or } 238 \\ & \text { or } \\ & 7 \times 9 \text { or } 63 \end{aligned}$ | M1 | any rectangular area found <br> must not be seen as part of multiplications | string of |
|  | $14 \times 10+7 \times 5 \text { or } 140+35$ or $17 \times 5+10 \times 9 \text { or } 85+90$ or $10 \times 5+7 \times 5+10 \times 9$ <br> or $50+35+90$ <br> or $14 \times 17-7 \times 9 \text { or } 238-63$ | M1dep | oe calculation for complete | rea of L-shape |
|  | 175 | A1 |  |  |
|  | Additional Guidance |  |  |  |
|  | Ignore any units |  |  |  |
|  | Examples of multiplication strings $\begin{aligned} & 14 \times 10 \times 9 \times 7 \times 5 \times 17 \\ & 14 \times 10 \times 2 \text { or } 140 \times 2 \\ & 14 \times 17=238,238 \div 2 \end{aligned}$ |  |  | M0 M0 M0 (triangle area) |

## Section B

| Q | Answer | Mark | Comments |
| :---: | :---: | :---: | :---: |
| 8 (a) | Alternative method 1 |  |  |
|  | $6+6+7.5+7.5+6$ or 33 | M1 | oe |
|  | their $33 \times 26.5(0)$ or $874.5(0)$ | M1dep |  |
|  | 1060 - their 874.5(0) or $185.5(0)$ | M1 | their $874.5>26.5(0)$ |
|  | $26.5(0) \times 2 \text { or } 53$ <br> or $(1060 \text { - their } 874.5(0)) \div 26.5(0) \text { or } 7$ | M1 | oe <br> 7 'normal hours' to work scores M4 |
|  | (1060 - their 874.5(0)) $\div$ their 53 or their $7 \div 2$ | M1dep | oe may be implied by their answer dep on previous M1 |
|  | 3.5 | A1 |  |
|  | Alternative method 2 |  |  |
|  | $6 \times 26.5(0) \text { or } 159$ <br> or $7.5 \times 26.5(0) \text { or } 198.75$ | M1 | implied by 477 <br> implied by 397.5(0) |
|  | $\begin{aligned} & 6 \times 26.5(0) \times 3+7.5 \times 26.5(0) \times 2 \\ & \text { or } 477+397.5(0) \\ & \text { or } 874.5(0) \end{aligned}$ | M1dep | oe |
|  | 1060 - their 874.5(0) or $185.5(0)$ | M1 | their $874.5>26.5(0)$ |
|  | $26.5(0) \times 2 \text { or } 53$ <br> or $\text { (1060 - their } 874.5(0)) \div 26.5(0) \text { or } 7$ | M1 | oe <br> 7 'normal hours' to work scores M4 |
|  | $(1060 \text { - their } 874.5(0)) \div \text { their } 53$ <br> or their $7 \div 2$ | 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

| 8(a)cont'd | Alternative method 3 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $6+6+7.5+7.5+6$ or 33 | M1 | oe |  |
|  | 1060 $\div 26.5(0)$ or 40 | M1 |  |  |
|  | 33 and 40 | A1 | may be implied by final answer |  |
|  | their 40 - their 33 or 7 | M1dep | dep on M2 <br> 7 'normal hours' to work scores 4 marks |  |
|  | their $7 \div 2$ | M1dep | oe may be implied by their answer dep on previous M1 |  |
|  | 3.5 | A1 |  |  |
|  | 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 |
|  | $26.5(0) \times 2$ or 53 may be implied eg$185.5 \div 2 \div 26.5(0)$ |  |  |  |
|  | If Answer line is blank answer may be seen in the table. Answer line always takes precedence <br> 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 |  |  |  |
|  | $28 \times 11$ or 308 | M1 |  |  |
|  | their $308+45$ or 353 or 350 - their 308 or 42 | M1dep |  |  |
|  | $353 \text { and No }$ <br> or 42 and No | A1 |  |  |
|  | Alternative method 2 |  |  |  |
|  | $28 \times 11$ or 308 | M1 |  |  |
|  | $350-45$ or 305 | M1 |  |  |
|  | 308 and 305 and No | A1 |  |  |
|  | Alternative method 3 |  |  |  |
|  | $350-45$ or 305 | M1 |  |  |
|  | their $305 \div 28$ or $10.8(\ldots)$ or 10.9 | M1dep |  |  |
|  | 10.8(...) and No or 10.9 and No | A1 |  |  |
|  | Alternative method 4 |  |  |  |
|  | $350-45$ or 305 | M1 |  |  |
|  | their $305 \div 11$ or $27.7(\ldots)$ | 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 |
|  | $28 \times 11+45 \times 11$ or $308+495(=803)$ |  |  | MOMOAO |


| Q | Answer | Mark | Comments |
| :---: | :---: | :---: | :---: |
| 8 (c) | Alternative method 1 |  |  |
|  | $64 \div 4$ or 16 | M1 |  |
|  | 64 - their 16 or 48 | M1dep | $\frac{3}{4} \times 64 \text { implies M2 }$ |
|  | their $48 \times 1.45$ or 69.6(0) | M1 | their 48 cannot be 70 |
|  | 69.6(0) and Yes | A1 |  |
|  | Alternative method 2 |  |  |
|  | $64 \div 4$ or 16 | M1 |  |
|  | 64 - their 16 or 48 | M1dep | $\frac{3}{4} \times 64 \text { implies M2 }$ |
|  | $70 \div 1.45 \text { or } 48.2(7 \ldots) \text { or } 48.3$ <br> or $70 \div \text { their } 48 \text { or } 1.458 . .$ | 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


| Q | Answer | Mark | Comments |
| :---: | :---: | :---: | :---: |
| 9 (a) | Alternative method 1 |  |  |
|  | $570 \div 10$ or 57 | M1 | oe |
|  | $45.75 \times 12$ or 549 | M1 |  |
|  | their $57+$ their 549 or 606 | M1dep | dep on M2 |
|  | their $606-570$ or 36 or $570+35 \text { or } 605$ | M1 | their $606>570$ |
|  | 36 and Yes <br> or <br> 606 and 605 and Yes | A1 |  |
|  | Alternative method 2 |  |  |
|  | $570 \div 10$ or 57 | M1 | oe |
|  | 570 - their 57 or 513 | M1dep | dep on M1 |
|  | $45.75 \times 12$ or 549 | M1 |  |
|  | their 549 - their 513 or 36 | M1dep | dep on previous M1 <br> with their $513<$ their 549 |
|  | 36 and Yes | A1 |  |
|  | Alternative method 3 |  |  |
|  | $570 \div 10$ or 57 | M1 | oe |
|  | 570 - their 57 or 513 | M1dep |  |
|  | their $513 \div 12$ or 42.75 | M1 | their $513<570$ |
|  | $(45.75$ - their 42.75$) \times 12$ or 36 | M1 | their $42.75<45.75$ |
|  | 36 and Yes | A1 |  |

## Mark scheme and additional guidance continue on the next page

| $\begin{gathered} 9(\mathrm{a}) \\ \text { cont'd } \end{gathered}$ | Alternative method 4 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $45.75 \times 12 \text { or } 549$ <br> 570 - their 549 or 21 | M1M1dep |  |  |
|  |  |  |  |  |
|  | $570 \div 10$ or 57 | M1 |  |  |
|  | $570 \div 10$ - their 21 or 36 or $570 \div 10-35 \text { or } 22$ <br> or <br> their $21+35$ or 56 | M1 | their 21 must be from 570 monthly payments | heir total |
|  | 36 and Yes or 21 and 22 and $Y e s$ or 56 and 57 and $Y$ es | A1 |  |  |
|  |  | ditional | idance |  |
|  | Do not award the M1 for 75 p in their multiplication | hey clea | do not attempt to include the |  |


| Q | Answer | Mark | Comments |
| :---: | :---: | :---: | :---: |
| 9 (b) | At least 2 of 21, 30 and 28 | M1 | at least two correct heights for Year 8, <br> Year 9 and Year 10 <br> may be on graph <br> may be implied |
|  | $\begin{aligned} & 115-\text { (their } 21+\text { their } 30+\text { their } 28 \text { ) } \\ & \text { or } \\ & 115-79 \\ & \text { or } 36 \end{aligned}$ | M1dep | may be implied by bar heights |
|  | their $36 \div 3$ 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 <br> For ft heights must be stated in working or on the bar or correct for their 36 | B2ft | $\pm 1 / 2$ square <br> ft their 12 and their 24 <br> must also be correct widths and spacing <br> B1ft one bar correct height <br> SC1 Year 11 height is twice Year 7 height (but not 24 and 12) <br> SC2 Bars for $\mathrm{Y} 7+\mathrm{Y} 11$ total 36 |

## Additional guidance is on the next page

| $\begin{gathered} \text { 9(b) } \\ \text { cont'd } \end{gathered}$ | Additional Guidance |  |
| :---: | :---: | :---: |
|  | Bars drawn with Y7 at 24 and Y 11 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 $\begin{aligned} & 115-78=37 \\ & 37 \div 3=12.3 \\ & 12.3 \times 2=24.6=25 \end{aligned}$ <br> heights Year 712 and Year 1125 drawn correctly | M1 <br> M1 <br> M1 <br> A0 <br> B2ft |
|  | The SC's are for no working shown and no values for Y 7 and Y 11 stated eg no working seen just bar for Y 7 is 11 and Y 11 is 25 (implies 36 calculated) If any working is seen then follow that for the bars eg states Y 7 is 10 and Y 11 is 25 then draws bars at 11 and 25 | SC2 <br> MOMOMOAO <br> B1ft |
|  | No working but states incorrect Y 7 and Y 11 , heights can gain up to B 2 ft eg <br> States Y7 $=35$ and $\mathrm{Y} 11=35$ then draws both bars to height 35 | MOMOMOAO <br> B2ft |
|  | $\begin{aligned} & \text { eg } \\ & 115-79=36 \\ & 36 \div 2=18 \end{aligned}$ <br> bars both drawn at 18 | M1M1M0A0 B2ft |
|  | If two values are stated but not attributed to the year group then assume the smaller is Y 7 for the ft marks |  |
|  | 79 implies the first M1 unless correct value(s) for the bar seen |  |


| Q | Answer | Mark | Comments |
| :---: | :--- | :---: | :--- |
|  | Exactly one rectangle of size <br> 10 squares by 2 squares (main table) | B1 |  |
|  | Exactly two rectangles of size <br> 4 squares by 2 squares (guest <br> tables) | B1 |  |
|  | Exactly one rectangle of size <br> 2 squares by 1 square (cake table) | B1 | B1 |
| All their tables labelled  <br> 10 (a) must be at least one of each type <br> accept letters eg M, G, C or identification <br> by labelling original dimensions <br>  All tables have at least 1 metre <br> (2 squares) space all around |  |  |  |


| Q | Answer | Mark | Comments |  |
| :---: | :---: | :---: | :---: | :---: |
| 10 (b) | Alternative method 1 |  |  |  |
|  | $5 \times 3$ or 15 | M1 | oe |  |
|  | 6 with 15 seen | A1 |  |  |
|  | Alternative method 2 |  |  |  |
|  | 1 (bouquet) $\rightarrow 18$ left <br> 2 (bouquet) $\rightarrow 15$ left <br> 3 (bouquet) $\rightarrow 12$ left <br> 4 (bouquet) $\rightarrow 9$ left <br> 5 (bouquet) $\rightarrow 6$ left | M1 | oe <br> 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 |  |  | MOAO |
|  | 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 |  |  |
|  | $30 \div 20$ or 1.5 | M1 | oe$850+425 \text { or } 180+90 \text { implies M2 }$ |
|  | their $1.5 \times 850$ or 1275 or their $1.5 \times 180$ or 270 | M1dep |  |
|  | their 1275-1000 <br> or <br> their $1275 \div 1000-1$ 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 |  |  |
|  | $850 \div 2 \text { or } 425$ <br> or $180 \div 2 \text { or } 90$ | M1 | oe eg scaling down to 1 |
|  | their $425 \times 3$ or 1275 or their $90 \times 3$ or 270 | M1dep | oe eg $850+$ their 425 scaling up to 30 |
|  | their 1275 - 1000 <br> or <br> their $1275 \div 1000-1$ 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 |  |

Mark scheme and Additional guidance continue on the next page





Mark scheme and additional guidance continue on the next page



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