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# Functional Skills Level 1 MATHEMATICS

## 8361/1

Paper 1 Non-Calculator

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Mark scheme

January 2023

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Version: 1.0 Final



2 3 1 A 8 3 6 1 / 1 / M S

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.

<b>M</b>	Method marks are awarded for a correct method which could lead to a correct answer.
<b>A</b>	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>B</b>	Marks awarded independent of method.
<b>ft</b>	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
<b>SC</b>	Special case. Marks awarded for a common misinterpretation which has some mathematical worth.
<b>M dep</b>	A method mark dependent on a previous method mark being awarded.
<b>B dep</b>	A mark that can only be awarded if a previous independent mark has been awarded.
<b>oe</b>	Or equivalent. Accept answers that are equivalent. eg accept 0.5 as well as $\frac{1}{2}$
<b>[a, b]</b>	Accept values between a and b inclusive.
<b>[a, b)</b>	Accept values $a \leq \text{value} < b$
<b>3.14 ...</b>	Accept answers which begin 3.14 eg 3.14, 3.142, 3.1416
<b>Use of brackets</b>	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	16	B1	

Q	Answer	Mark	Comments
2	134.5	B1	
	<b>Additional Guidance</b>		
	Ignore additional zeroes after 5 eg 134.50		

Q	Answer	Mark	Comments
3	$\frac{3}{6}$ or $\frac{1}{2}$	B1	oe fraction, decimal or percentage
	<b>Additional Guidance</b>		
	Ignore probability description words if correct value seen eg $\frac{1}{2}$ so unlikely		B1
	3 out of 6		B0
	3 in 6		B0
	Ratio in figures or words eg1 3 : 6 eg2 3 to 3		B0 B0 B0
	Ignore incorrect cancelling if correct fraction seen eg $\frac{3}{6} = \frac{1}{3}$ scores B1 for initial correct fraction		

Q	Answer	Mark	Comments
4	$15 \div 3$ calculated before adding to 9	M1	eg $9 + 5$
	14	A1	
	<b>Additional Guidance</b>		
	Answer 8 (from operations done in given order)		M0A0
	5 from incorrect method		M0A0

Q	Answer	Mark	Comments
5	1.02	B1	

Q	Answer	Mark	Comments
6	$30 \div 5 (\times 2)$ or $6 (\times 2)$ or $0.4 \times 30$ or $2 \times 30 (\div 5)$ or $60 (\div 5)$	M1	oe
	12	A1	
	<b>Additional Guidance</b>		
	eg1 $2 \times 30 = 60$ $60 \div 5 = 12$  eg2 $2 \times 30 = 60$ $60 \times 5 = 300$	M1 A1	M0A0
	Mark the answer line if embedded answer seen eg $30 \div 5 = 6$ $12 \div 2 = 6$ Answer 6	M1 A0	

**Section B**

Q	Answer	Mark	Comments
<b>7 (a)</b>	<b>Alternative method 1</b>		
	[4.9, 5.1] or 3 or [6.4, 6.6]	M1	implied by [19.6, 20.4] or 12 or [25.6, 26.4]
	their [4.9, 5.1] × 4 or [19.6, 20.4] or their 3 × 4 or 12 or their [6.4, 6.6] × 4 or [25.6, 26.4]	M1	oe eg 4, 8, 12, 16, ... implies second M1 only
	their [4.9, 5.1] × 4 + their 3 × 4 + their [6.4, 6.6] × 4 or [19.6, 20.4] + 12 + [25.6, 26.4] or [57.2, 58.8]	M1	at least two of the three lengths used must be correct
	[57.2, 58.8] and Yes	A1	oe eg Theo walks 8km more
	<b>Alternative method 2</b>		
	[4.9, 5.1] or 3 or [6.4, 6.6]	M1	implied by [14.3, 14.7]
	their [4.9, 5.1] + their 3 + their [6.4, 6.6] or [14.3, 14.7]	M1	oe at least two of the three lengths used must be correct
	(their [4.9, 5.1] + their 3 + their [6.4, 6.6]) × 4 or [14.3, 14.7] × 4 or [57.2, 58.8]	M1	
	[57.2, 58.8] and Yes	A1	oe eg Theo walks 8km more

**Mark scheme and Additional Guidance continues on next page**

<b>7(a)</b>	<b>Alternative method 3</b>		
	[4.9, 5.1] or 3 or [6.4, 6.6]	M1	implied by [14.3, 14.7]
	their [4.9, 5.1] + their 3 + their [6.4, 6.6] or [14.3, 14.7]	M1	oe at least two of the three lengths used must be correct
	$50 \div 4$ or 12.5	M1	oe
	12.5 and [14.3, 14.7] and Yes	A1	oe
	<b>Alternative method 4</b>		
	[10.4, 10.6] or 3	M1	implied by [41.6, 42.4] or 12
	their [10.4, 10.6] $\times$ 4 or [41.6, 42.4] or their $3 \times 4$ or 12	M1	oe
	their [10.4, 10.6] $\times$ 4 + their $3 \times 4$ or their [41.6, 42.4] + their 12 or [53.6, 54.4]	M1	at least two of the three lengths used must be correct
	[53.6, 54.4] and $AB > AC$ and Yes	A1	oe
	<b>Additional Guidance</b>		
	Working may be seen on diagram eg 4, 8, 12, 15, 20 marked on line from A to B		M1M1
	Apply scheme that awards most marks for equivalent methods eg1 20, 26 and 12 seen $20 + 26 = 46$ and 4 left and $12 > 4$ eg2 20, 26 and 12 seen $20 + 26 = 46$ and 4 left		M1M1 M1A1 M1M1 M0A0
	Distances may be combined eg [9.4, 9.6]		M1



Q	Answer	Mark	Comments
7 (b)	<b>Alternative method 1</b>		
	1360 – 850 or 510 or 1040 – 760 or 280	M1	missing length may be implied may be on diagram
	1040 + 850 + 760 + their 510 or 3160 or 1360 + their 280 or 1640	M1dep	oe eg 1040 + 1360 + 760 implies first M1
	1040 + 850 + 760 + their 510 – 1360 – their 280	M1	oe must add 4 sides and subtract two sides
	1520	A1	accept 1.52(0) km
	<b>Alternative method 2</b>		
	1040 – 760 or 280	M1	
	1040 + 760 or 1800	M1	
	their 1800 – their 280	M1dep	oe dep on M2
	1520	A1	accept 1.52(0) km
	<b>Additional Guidance</b>		
	1.52(0) with working, but no units		M1M1M1A0

Q	Answer	Mark	Comments
7 (c)	<b>Alternative method 1</b>		
	$7 \times 36$ or 252	M1	oe
	$0.1 \times$ their 252 or 25.2(0)	M1	oe
	their 252 – their 25.2(0) or 226.8	M1dep	dep on M2 $0.9 \times$ their 252 is M2
	226.80	A1	correct money notation condone £226.80p SC1 237.6 SC2 237.60
	<b>Alternative method 2</b>		
	$0.1 \times 36$ or 3.6(0)	M1	oe
	$36 -$ their 3.6(0) or 32.4(0)	M1dep	$0.9 \times$ their 36 is M2
	$7 \times$ their 32.4(0) or 226.8	M1	
	226.80	A1	correct money notation condone £226.80p SC1 237.6 SC2 237.60
	<b>Additional Guidance</b>		
	May work in pence throughout but must convert back to pounds for final answer		