



Functional Skills Mathematics Assessment

Level 2 - Guidance and Mark Scheme for Markers

'Fit For Life'

Markers' Guidance and Mark Scheme

Functional Skills Maths Assessment: Level 2

There are **3 tasks** in this assessment.

Candidates must 'pass' all tasks.

Level 2 Functional Skills Maths standards

Within the standards, the term 'functional' should be considered in the broad sense of providing learners with the skills and abilities they need to take an active and responsible role in their communities, everyday life, the workplace and educational settings. Functional mathematics requires learners to use mathematics in ways that make them effective and involved as citizens, to operate confidently in life, and to work in a wide range of contexts.

The standard at Level 2 is underpinned by the process skills of representing (making sense of situations and representing them), analysing (processing and using the mathematics) and interpreting (interpreting and communicating the results of analysis).

Level Two Mathematics

Paper: *Fit for Life*

Summary of Skills Standards

Representing	Code	Weighting	Task 1	Task 2	Task 3	Overall weighting
understand routine and non- routine problems in a wide range of familiar and unfamiliar contexts and situations	M.L2.P1	30-40%	*	25%	25%	31%
identify the situation or problem and identify the mathematical methods needed to solve them	M.L2.P2		25%	*	6%	
choose from a range of mathematics to find solutions	M.L2.P3		*	12.5%	*	
Analysing		Weighting				
apply a range of mathematics to find solutions	M.L2.P4	30-40%	42%	25%	19%	33%
use appropriate checking procedures and evaluate their effectiveness at each stage	M.L2.P5		*	12.5%	*	
Interpreting		Weighting				
interpret and communicate solutions to multistage practical problems in familiar and unfamiliar contexts and situations	M.L2.P6	30-40%	33%	25%	31%	36%
draw conclusions and provide mathematical justifications	M.L2.P7		*	*	19%	

Note: * denotes that the task offers opportunities for demonstrating this process, but has not been credited

Level Two Mathematics

Paper: *Fit for Life*

Coverage and range	Code	Task 1	Task 2	Task 3
understand and use positive and negative numbers of any size in practical contexts	M.L2.A	Y	Y	Y
carry out calculations with numbers of any size in practical contexts, to a given number of decimal places	M.L2.B	Y	Y	Y
understand, use and calculate ratio and proportion, including problems involving scale	M.L2.C	Y	Y	Y
understand and use equivalences between fractions, decimals and percentages	M.L2.D			Y
understand and use simple formulae and equations involving one – or two – step operations	M.L2.E	Y		
recognise and use 2D representations of 3D objects	M.L2.F			
find area, perimeter and volume of common shapes	M.L2.G		Y	
use, convert and calculate using metric and, where appropriate, imperial measures	M.L2.H	Y	Y	
collect and represent discrete and continuous data, using information and communication technology (ICT) where appropriate	M.L2.I			Y
use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using information and communication technology (ICT) where appropriate	M.L2.J	Y		Y
use statistical methods to investigate situations	M.L2.K			Y
use probability to assess the likelihood of an outcome	M.L2.L			

Task 1: Problem Page: giving advice

Functional Skills Maths:	Coverage and range: Level 2 assessment criteria	Problem Page: Giving Advice	
Functional Skill standard	Within open-ended tasks, learners gain credit in different ways. The most likely categories of response are shown below, but students are not expected to show them all. Other valid approaches may be seen, eg price per cm ³ , in which case the marker should credit appropriately.		
<ul style="list-style-type: none"> P1: understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations P2: identify the situation or problem and the mathematical methods needed to solve them P3: choose from a range of mathematics to find solutions P4: apply a range of mathematics to find solutions P5: use appropriate checking procedures and evaluate their effectiveness at each stage P6: interpret and communicate solutions to multistage practical problems in familiar and unfamiliar routine contexts and situations P7: draw conclusions and provide mathematical justifications 	Up to 10 marks are available from the categories below	Possible marks	Ref
	Recognises that Gill is obese	1	P4
	Uses the graph to find an 'OK' weight (any value between about 7½ (condone 8½) and 10½ stone) or Uses the graph to give advice, eg 'if you lose about 1½ stone you'd be overweight not obese'	1	P6
	Shows Gill's weight in kilograms (any value between 87 and 90kg inclusive)	1	P2
	Works out Gill's BMI as between 32 and 33.5 inclusive (allow follow through from their incorrect value). (1 mark for showing a correct method even if brackets are omitted, eg $89 \div 1.64 \times 1.64$)	2	P4 P4
	Compares Gill's BM1 to the recommended range, eg 'Your BMI is too high'	1	P7
	Works out the number of calories used for cycling over a period of time other than 30 minutes eg 124 kcals in 20 minutes/ 248 kcals in 40 minutes (1 mark only for multiples of 30 minutes)	2	P2 P4
	Works out the number of calories used for walking for a period of time other than 30 minutes, eg 30 kcals in 10 minutes	1	P2
	Works out the total number of kcals in lunch, ie 786	1	P4
	Uses proportions to compare kcals in lunch to kcals number used when exercising, eg 'Almost 3 times more' (1 mark only for comparing using quantities)	2	P7 P7
Note: See page 9 for guidance on scaling and the pass mark for this task.			

Task 2: Where should we walk?

Functional Skills Maths:	Coverage and range: Level 2 assessment criteria		Where should we walk?	
Functional Skill standard	Within open-ended tasks, learners gain credit in different ways. The most likely categories of response are shown below, but students are not expected to show them all. Other valid approaches may be seen, eg price per cm ³ , in which case the marker should credit appropriately.			
<ul style="list-style-type: none"> • P1: understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations • P2: identify the situation or problem and the mathematical methods needed to solve them • P3: choose from a range of mathematics to find solutions • P4: apply a range of mathematics to find solutions • P5: use appropriate checking procedures and evaluate their effectiveness at each stage • P6: interpret and communicate solutions to multistage practical problems in familiar and unfamiliar routine contexts and situations • P7: draw conclusions and provide mathematical justifications 	Up to 6 marks are available from the categories below		Possible marks	Ref
	Chooses to work with 6000 steps, or justifies a different amount, eg 'Use male stride length otherwise Mohammed won't walk far enough'		1	P1
	Calculates using male step length only or justifies a different amount, eg 'Use the mean of 66 and 76 to be fair'		1	P1
	Calculates the distance to be walked in metres or kilometres, eg 4.56km or 4560m if 6000 steps at step length 76cm used. Allow follow through from their values. (1m for correct distance in cm.)		2	P3 P4
	Shows evidence of ability to use the scale		1	P4
	Identifies a walk within about +/- 10% of their correct distance on the map (accept walks off road)		1	P6
	Shows a circular walk, or justifies a one-way walk, eg 'They can get someone to pick them up'		1	P6
	Shows insight into the problem, eg that values are approximate or by using stride lengths that are rounded		1	P5
Note: See page 9 for guidance on scaling and the pass mark for this task.				

Task 3: TV advertising: are children easy targets?

Functional Skills Maths:	Coverage and range: Level 2 assessment criteria	TV advertising	
Functional Skill standard	Within open-ended tasks, learners gain credit in different ways. The most likely categories of response are shown below, but students are not expected to show them all. Other valid approaches may be seen, eg price per cm ³ , in which case the marker should credit appropriately.		
<ul style="list-style-type: none"> P1: understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations P2: identify the situation or problem and the mathematical methods needed to solve them P3: choose from a range of mathematics to find solutions P4: apply a range of mathematics to find solutions P5: use appropriate checking procedures and evaluate their effectiveness at each stage P6: interpret and communicate solutions to multistage practical problems in familiar and unfamiliar routine contexts and situations P7: draw conclusions and provide mathematical justifications 	Up to 12 marks are available from the categories below	Possible marks	Ref
	Makes a correct statement comparing the proportion of healthy (or non-healthy) ads for adults and children, eg 'Kids get more adverts for junk food'	1	P6
	Processes data to back up their argument, eg '78% v 57% for non-healthy food'; '22% v 43% for healthy food'	1	P4
	Shows other mathematical insight, eg 'The proportion of adverts for healthy food for adults is almost twice that for children'	1	P7
	Makes a decision, probably but not necessarily, agreeing with the statement, showing some justification	1	P6
	Recognises that most viewing is of adult programmes	1	P1
	Shows or implies that 29% of 17 (or 71% of 17) has been calculated or estimated, eg 3.48 (or 3½ or 4) or 12.07 (or 12) is seen	1	P4
	Makes the decision that the statement is incorrect, showing some justification	1	P6
continued overleaf			

Functional Skills Maths:	Coverage and range: Level 2 assessment criteria		TV advertising (continued)	
Functional Skill standard	Within open-ended tasks, learners gain credit in different ways. The most likely categories of response are shown below, but students are not expected to show them all. Other valid approaches may be seen, eg price per cm ³ , in which case the marker should credit appropriately.			
<ul style="list-style-type: none"> • P1: understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations • P2: identify the situation or problem and the mathematical methods needed to solve them • P3: choose from a range of mathematics to find solutions • P4: apply a range of mathematics to find solutions • P5: use appropriate checking procedures and evaluate their effectiveness at each stage • P6: interpret and communicate solutions to multistage practical problems in familiar and unfamiliar routine contexts and situations • P7: draw conclusions and provide mathematical justifications 	<p>(continued from the previous page)</p>	Possible marks	Ref	
		Recognises that the values within the yellow cells are totals for toys/food for that category, eg (minimally) 'it's the numbers in that column added up'	1	P1
		Recognises that the values within the green cells are mean (or average) values	1	P1
		Recognises that the children respond differently to adverts for toys and food	1	P6
		Use fractions, decimals or percentages to compare values, even if estimated or rounded eg 'Obese children ate 2.5 times as much after ads for food' (1m for proportions using whole numbers, eg 'about twice as much')	2	P2 P4
		Compares the three categories of children after ads for toys, eg 'About the same', 'OK kids were a bit lower than the other two' (students who use totals may show lack of understanding by drawing the opposite conclusion)	1	P7
		Compares the three categories of children after ads for food, eg 'Heavier kids ate more after food than those whose weight is ok'	1	P7
		Shows other insight, eg 'The sample size is quite small so other children may respond differently'	1	P1
		Makes a decision, probably but not necessarily, agreeing with the statement, showing some justification	1	P6
<p>Note: See page 9 for guidance on scaling and the pass mark for this task.</p>				

Functional Skills Maths: Level 2

Scaling and the pass marks, for all tasks

Task 1: Problem Page		
Mark	Scaled Mark	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	P
7	7	A
8	8	S
9	9	S
10	10	

Task 2: Where should we walk?		
Mark	Scaled Mark	
1	2.5	
2	5	
3	7.5	
4	10	P
5	12.5	A
6	15	S
		S

Task 3: TV Advertising		
Mark	Scaled Mark	
1	2	
2	3	
3	5	
4	7	
5	8	
6	10	
7	12	
8	13	P
9	15	A
10	17	S
11	18	S
12	20	