

# Functional Skills Mathematics

## Level 1 Sample assessment

Mark scheme  
Sample paper 4

### Guidance notes for Sample Paper Mark Schemes Level 1 and Level 2

Notes:

The mark scheme has been carefully constructed to avoid penalising candidates repeatedly for similar errors.

1) The principle of follow through applies throughout unless otherwise stated. This allows the candidates to gain credit for subsequent correct calculation based on a previous incorrect answer.

2) Units or numbers shown in brackets on the mark scheme are not required for the awarding of mark/s on the candidate's paper. However, if a candidate states units they must be correct:

eg 24(cm) means accept 24cm or 24 but not 24m  
eg (£)72.5(0) means accept £72.50 or £72.5 or 72.50 or 72.5

3) Correct money format is expected in final answers unless otherwise indicated by brackets ie pounds must have two decimal places or no decimal places.

eg (£)5.00 or (£)5 not (£)5.0  
eg (£)72.50 not (£)72.5  
eg (£)37.43 not (£)37.432

4) URT means unrounded, rounded or truncated; the underlining defines the acceptable limit of approximation:

eg 860. 8652 URT (U is the unrounded version)  
the following are acceptable: 860 (T) or 861 (R) 860.8 (T) or 860.9 (R) or 860.86 (T) or 860.87 (R) or 860.865 (R) or 860.8652 (U) but not eg 900.

#### Update for new tests

Checks: Note that marks are no longer awarded for a repeat of the original calculation. Candidates are guided to use a different method to check their calculation within the test paper, eg approximation or reverse calculation.

## Level 1 SAMPLE PAPER 4

	mark	R	A	I	open	fixed					
1A	2	1	1	0	0	2					
1B	3	1	2	0	3	0					
1C	4	2	2	0	4	0					
1D	2	1	1	0	0	2					
1E	4	0	1	3	3	1	5	7	3	10	5
2A	2	2	0	0	2	0					
2B	4	2	2	0	4	0					
2C	7	1	1	5	7	0					
2D	2	1	1	0	2	0	6	4	5	15	0
3A	2	2	0	0	0	2					
3B	2	1	1	0	0	2					
3C	1	0	0	1	1	0					
3D	3	1	2	0	0	3					
3E	4	0	0	4	4	0					
3F	1	0	0	1	1	0					
3G	2	1	1	0	2	0	5	4	6	8	7
	45	16	15	14	33	12					
		36%	33%	31%	73%	27%					

Mathematics Level 1 Sample Paper 4: Task 1			
Step	Total marks	Marks	Marks awarded for
Task 1 step A	2	2	<b>36</b>
		1	180, number of CD cases to put in packs of 5 <b>or</b> complete correct method with one calculation or rounding error
Task 1 step B	3	3	<b>(£)2.00 for 5 CD cases AND (£)4.80 for 12 CD cases</b>
		2	(£)2.00 <b>or</b> (£)4.80
		1	(£)0.40 <b>or</b> 40(p)
Task 1 step C	4	4	<b>(£)3.50 for 5 CD cases AND (£)8.40 for 12 CD cases follow through 1B</b>
		3	(£)3.50 <b>or</b> (£)8.40
		2	(£)1.50 for 5 CD cases <b>and</b> (£)3.60 for 12 CD cases
		1	(£)1.50 <b>or</b> (£)3.60 <b>or</b> (£)0.30 or 30(p) seen as profit for one CD case <b>or</b> method for finding 75% eg $x 0.75$ or $x 75 \div 100$ seen
Task 1 step D	2	2	<b>(£)210(.00) follow through 1A and 1C</b>
		1	(£)126 <b>or</b> (£)84 <b>or</b> complete correct method with one calculation or rounding error
Task 1 step E	4	1	<b>table with clear structure ie rows, columns, delineation AND some suitable headings/labels</b>
		1	<b>three headings/labels for price, total money and profit or equivalents</b>
		1	<b>all data entered for their headings in table, units not required for subtotals</b> <b>Note: at least three headings and corresponding data required for this mark</b>
		1	<b>(£)90(.00) for profit seen anywhere</b> <b>Value of their 1D - 120</b>
			<b>Total for Task 1 15 marks</b>

### Example for 1E (accept other arrangements)

	Amount £
Price	210
Total money	120
Profit	90

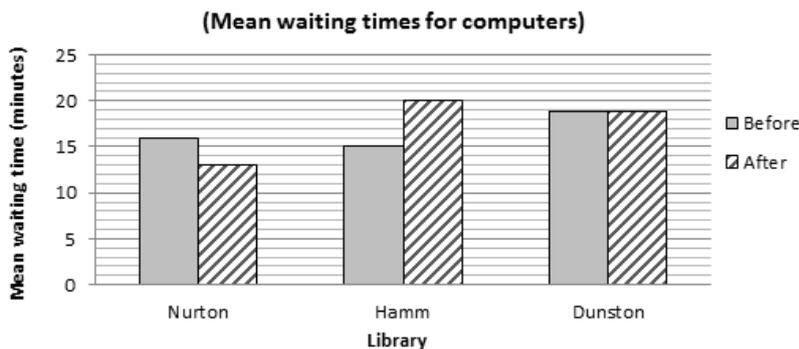
**Mathematics Level 1 Sample Paper 4: Task 2**

Step	Total marks	Marks	Marks awarded for																
Task 2 step A	2	2	<b>Super bounce AND two valid reasons ie reference to age and cost</b> eg Super bounce for (children and) adults AND in budget eg Super bounce for (children and) adults AND Epic bounce would use all of budget																
		1	Super bounce <b>and</b> one valid reason																
Task 2 step B	4	4	<b>total cost AND correct money left for chosen game</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Game</th> <th>Connect 4</th> <th>Ludo</th> <th>Twister</th> </tr> </thead> <tbody> <tr> <td>(Cost of game)</td> <td>((£)17.50)</td> <td>((£)12.50)</td> <td>((£)7.50)</td> </tr> <tr> <td><b>Total cost</b></td> <td>(£)127.50</td> <td>(£)122.50</td> <td>(£)117.50</td> </tr> <tr> <td><b>Money left</b></td> <td>(£)22.50</td> <td>(£)27.50</td> <td>(£)32.50</td> </tr> </tbody> </table> <p><b>follow through 2A</b></p>	Game	Connect 4	Ludo	Twister	(Cost of game)	((£)17.50)	((£)12.50)	((£)7.50)	<b>Total cost</b>	(£)127.50	(£)122.50	(£)117.50	<b>Money left</b>	(£)22.50	(£)27.50	(£)32.50
		Game	Connect 4	Ludo	Twister														
		(Cost of game)	((£)17.50)	((£)12.50)	((£)7.50)														
		<b>Total cost</b>	(£)127.50	(£)122.50	(£)117.50														
		<b>Money left</b>	(£)22.50	(£)27.50	(£)32.50														
3	total cost <b>with</b> chosen game with incorrect amount money left <b>or</b> correct money left <b>with</b> chosen game without total cost																		
2	(£)5 <b>and</b> (£)145 or (£)15 <b>and</b> (£)135 or (£)25 <b>and</b> (£)125 for money left and total cost when chosen game price not halved <b>or</b> complete correct method for total cost with one calculation error																		
1	(£)17.50 or (£)12.50 or (£)7.50 chosen game at half price <b>or</b> (£)40 for money available for game after bouncy castle hired <b>or</b> (£)5 or (£)15 or (£)25 for money left when chooses game price not halved and total cost not seen <b>or</b> (£)145 or (£)135 or (£)125 for total cost when chosen game price not halved																		
Task 2 step C	7	1	<b>bouncy castle and game both on the grass AND bouncy castle not under the trees</b>																
		1	<b>at least 1 metre to scale (two squares) of clear grass all around the bouncy castle and game</b>																
		1	<b>bouncy castle and game labelled on plan or key</b>																
		2	<b>bouncy castle drawn to scale <math>\pm \frac{1}{2}</math> small square ie 4.5m x 4m to scale ie 9cm x 8cm (9 x 8 squares) for Super bounce</b> <b>follow through 2A</b>																
		1	one dimension of bouncy castle correct $\pm \frac{1}{2}$ small square <b>or</b> 9 and 8 seen in working for dimensions																
		2	<b>their chosen game drawn to scale <math>\pm \frac{1}{2}</math> small square</b> <b>1.5m x 0.5m to scale ie 3cm x 1cm (3 x 1 square) for Connect4</b> <b>2.5m x 2.5m to scale ie 5cm x 5cm (5 x 5 squares) for Ludo</b> <b>3.5m x 3.5m to scale ie 7cm x 7cm (7 x 7 squares) for Twister</b>																
		1	one dimension of their game drawn to scale $\pm \frac{1}{2}$ small square <b>or</b> both dimensions of game seen in working																
Task 2 step D	2	2	<b>correct explanation of scale used in 2C with reference to scale AND length of scaled line AND actual length</b> eg $450\text{cm} \div 50 = 9\text{cm}$ eg $1\text{m} = 2\text{cm}$ AND $4\text{m} = 8\text{cm}$ eg $1\text{m} = 2$ squares AND $2.5\text{m} = 5$ squares																
		1	incomplete explanation of scale used eg 1 metre = 2cm for reference to scale only eg 0.5m = 1 square for reference to length of lines without scale reference																
<b>Total for Task 2</b>			<b>15 marks</b>																

**Mathematics Level 1 Sample Paper 4: Task 3**

Step	Total marks	Marks	Marks awarded for
Task 3 step A	2	1	Certain
		1	Impossible
Task 3 step B	2	2	three correct ranges Nurton 8, Hamm 24, Dunston 25
		1	one correct range
Task 3 step C	1	1	Nurton AND the range is the lowest
Task 3 step D	3 No marks for median or mode	3	three correct means Nurton 13, Hamm 20, Dunston 19
		2	one correct mean
		1	complete correct method for <b>one</b> mean with one calculation or rounding error
Task 3 step E	4 No marks for line graph or table	1	bar chart showing 6 means only AND vertical axis label AND bar labels/key if title present this may be used to clarify or substitute vertical axis label <i>do not award this mark if range shown follow through 3C</i>
		1	suitable continuous linear vertical scale starting from zero (implied) and going to at least 20 or sufficient for their values
		2	height of all bars correct $\pm\frac{1}{2}$ small square for mean time ie last week 13, 20, 19 (or their 3C values for mean) AND before 16, 15, 19
		1	one bar height correct $\pm\frac{1}{2}$ small square
Task 3 step F	1	1	Nurton WITH a valid reason eg '(on average only waiting times at) Nurton have gone down.' <i>follow through their 3C or 3D</i>
Task 3 step G	2 No marks for a straight repeat calculation	2	a complete correct check of any original calculation seen in 3A or 3C using a different method eg a reverse calculation OR a calculation using approximate values
		1	a correct check which is not finished
			<b>Total for Task 3 15 marks</b>

Chart for 3E



### Level 1 Sample Paper 4

Coverage and Range (Technical Skills)	Task 1	Task 2	Task 3
<b>C1.1</b> Understand and use whole numbers and understand negative numbers in practical contexts	✓	✓	✓
<b>C1.2</b> Add, subtract, multiply and divide whole numbers using a range of strategies	✓	✓	✓
<b>C1.3</b> Understand and use equivalences between common fractions, decimals and percentages	✓	✓	
<b>C1.4</b> Add and subtract decimals up to 2 decimal places	✓	✓	
<b>C1.5</b> Solve problems involving ratio, where one number is a multiple of the other		✓	
<b>C1.6</b> Use simple formulae expressed in words for 1- or 2-step operations			
<b>C1.7</b> Solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature	✓	✓	✓
<b>C1.8</b> Convert units of measure in the same system	✓	✓	
<b>C1.9</b> Work out areas and perimeters in practical situations			
<b>C1.10</b> Construct geometric diagrams, models and shapes		✓	
<b>C1.11</b> Extract and interpret information from tables, diagrams, charts, graphs	✓	✓	✓
<b>C1.12</b> Collect and record discrete data and organise and represent information in different ways	✓	✓	✓
<b>C1.13</b> Find mean and range			✓
<b>C1.14</b> Use data to assess the likelihood of an outcome			✓