

Functional Skills Mathematics

Level 1 sample assessment

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Version 1

Marking scheme
PAPER-BASED

These materials relate to the assessments
that will be in use from September 2015



Sample Paper 6

Level 1 Sample Paper 6

	Mark	Represent	Analyse	Interpret	Open	Fixed					
1A	4	2	2	0	0	4					
1B	3	1	2	0	1	2					
1C	2	1	1	0	0	2					
1D	1	0	0	1	1	0					
1E	3	0	0	3	3	0	5	6	4	7	8
1F	2	1	1	0	2	0					
2A	8	1	1	6	8	0					
2B	1	1	0	0	1	0					
2C	2	1	1	0	2	0					
2D	2	1	1	0	2	0	5	4	6	15	0
2E	2	1	1	0	2	0					
3A	3	2	1	0	3	0					
3B	1	1	1	0	1	0					
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	5	5	6	12	3
3G	2	1	1	0	2	0					
	45	15	15	16	34	11					
		33%	33%	36%	76%	24%					

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) 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) 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.

Total marks available: 45
Notional pass mark: 30 (or above)

NB incorrect money format given as an answer should only be penalised **once** on the whole paper and will lose 1 mark eg (£)290.6 at Task 1A will achieve 3 marks or (£)36.325 at 1B 2 would achieve 2 marks if money format not already penalised at 1A. Do not penalise any subsequent incorrect format.

Maths Level 1: Sample Paper 6 – Task 1

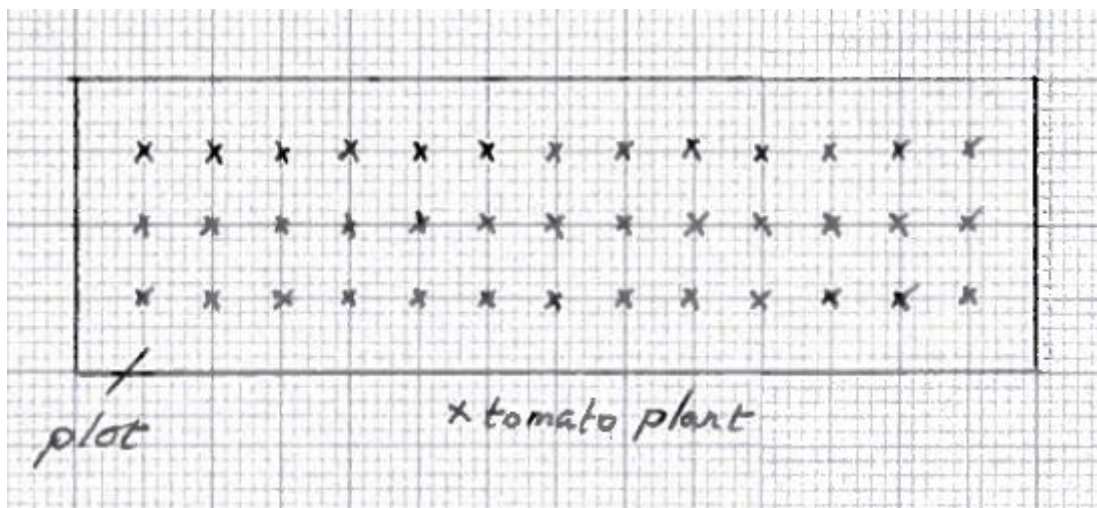
Step	Total marks	Marks	Marks awarded for
Task 1 Step A	4	4	(£)290.60
		3	(£)290.6 or complete correct method for both journeys with one calculation error or rounding error eg $[(112 - 75) \times 1.9 + 75] \times 2$ or (£)145.30 (cost for one journey, correct money format) or (£)358.10 (treats both journeys as one, ie $(112 \times 2 - 75) \times 1.9 = (£)358.10$)
		2	(£)145.3 (cost for one journey, incorrect money format) or correct substitution into formula for one journey or both journeys eg $(112 - 75) \times 1.9 + 75$ or (£)358.1 (see above) or 37 and $\times 1.9$ seen or $112 - 75$ and $\times 1.9$ seen
		1	$112 - 75$ or 37 or $\times 1.9$ seen as part of calculations
Task 1 Step B	3	3	(£)36.32 or (£)36.33 or (£)36.34 Note: wrong answer of (£)358.10 in 1A leads to (£)44.76 or (£)44.77 follow through 1A
		2	(£)36.325 or their 1A $\div 7$ eg (£)41.51 or (£)41.52
		1	$\div 8$ seen or (£)41.51 <u>428571</u> URT
Task 1 Step C	2	2	5:05(pm) or 17:05 seen or 4:00(pm) to 5:04(pm) or 16:00 to 17:04 WITH supporting calculation or explanation eg allow 1 hour for traffic eg 21:25 – 2(hours) – 2(hours) 20(min)
		1	4:00(pm) to 5:04(pm) without supporting calculation or explanation or acceptable time with error in format eg 17:00pm with calculation or complete correct method seen without a time stated
Task 1 Step D	1	1	justification for their time in 1C reflecting purpose of task or involving time or other reason with mathematical dimension eg gives enough time for the journey to be at airport 2 hours before flight time eg we need to leave 4 hours 20 minutes and that gives us enough time
Task 1 Step E	3 do not award marks for chart or line graph	1	table with clear structure, headings AND all necessary delineation
		2	the two money values with units AND the time in a correct form
		1	all values and the time with one omission or error eg omitting £-signs is one error or omitting pm from 5:05
Task 1 Step F	2 no marks for repeat calc	2	a complete correct check of any original calculation seen in 1A or 1B using a different method eg a reverse calculation OR a calculation using approximate values
		1	a correct check which is not finished
			Total for Task 1 15 marks

Example table for 1E

Total cost	£290.60
Each pay	£36.32
Time we will leave	17:05

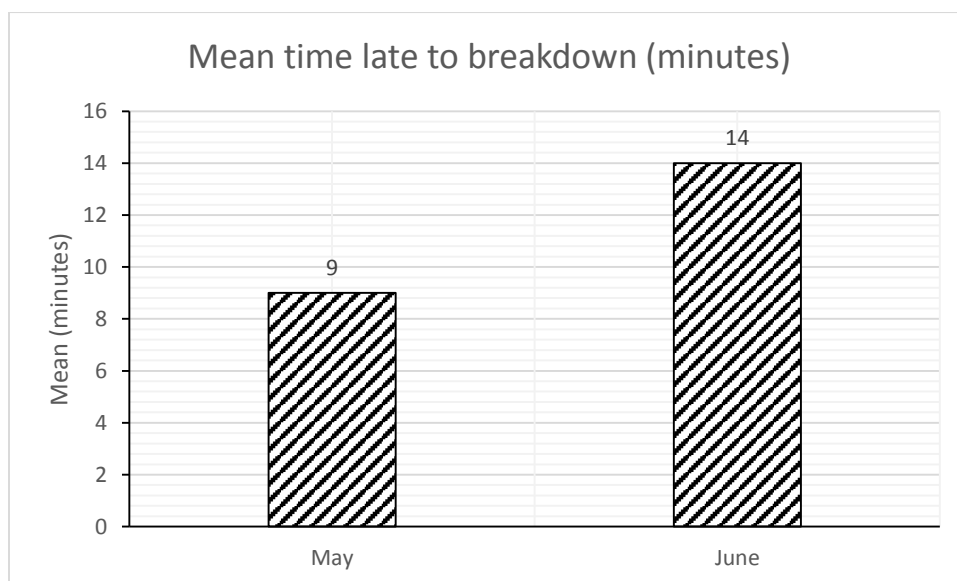
Maths Level 1: Sample Paper 6 – Task 2			
Step	Total marks	Marks	Marks awarded for
Task 2 Step A	8	2	rectangle drawn 14cm by 4cm tolerance $\pm \frac{1}{2}$ small square
		1	pair of parallel lines 14cm or 4cm, tolerance $\pm \frac{1}{2}$ small square
		2	3 rows of tomato plants AND 13 tomato plants in each row
		1	3 rows of tomato plants or 13 tomato plants in a row
		1	exterior tomato plants all 1cm from an edge, ie scaled 50cm
		2	tomato plants a consistent distance apart horizontally with at least 1cm between their centres
		1	one row or column with consistent distances
		1	key or label for tomato plant AND plot
Task 2 Step B	1	1	39 (tomato plants) <i>follow through 1A</i>
Task 2 Step C	2	2	value between 156(kg) and 260(kg) accept a maximum and minimum within the above eg 156(kg) to 260(kg) eg 200(kg) to 210(kg) <i>follow through 2B</i>
		1	complete correct method with one calculation error eg $39 \div 3 \times 12$ or $39 \div 3 \times 20$
Task 2 Step D	2	2	correct value from sale of half of their tomatoes eg (£)123.50 for half of 260(kg) <i>follow through 2C</i>
		1	correct answer in pence eg 12350(p) or complete correct method with one calculation error
Task 2 Step E	2	2	correct explanation of scale used in 2A with reference to scale AND length of scaled line AND actual length eg 1m = 2cm so 7(m) is 14(cm) (for plot) eg $2(m) \div 50 = 4(cm)$ eg 1m is 2 squares so 50cm is 1 square for gap
		1	incomplete explanation of scale used eg 2 squares are 1m for reference to scale only eg 2m = 4cm for reference to length of lines without scale reference
			Total for Task 2 15 marks

Example diagram for 2A



Maths Level 1: Sample Paper 6 – Task 3			
Step	Total marks	Marks	Marks awarded for
Task 3 Step A	3	3	342
		2	suitable method for finding 95% eg $360 \times 95 \div 100$ or 0.95×360
		1	360 seen for total or $\times 0.95$ or equivalent do not accept $\times 95\%$
Task 3 Step B	1	1	344 <i>follow through 1A addition</i> <i>ie value of their 360 – 16</i>
Task 3 Step C	1	1	Yes or no consistent with their 3A and 3B AND supported with a valid reason eg Yes because 344 is bigger than 342
Task 3 Step D	3 No marks for median or mode	3	14 (min)
		2	$224 \div 16$ or complete correct method with one error
		1	224 seen for total number of minutes
Task 3 Step E	4 No marks for line graph or table	1	bar chart with bars for means for May and June
		1	vertical axis label and bar labels / key <i>if title present, this can clarify axis labels</i>
		1	suitable continuous linear vertical scale starting from zero (implied) and going to at least 14 or sufficient for their values
		1	height of both bars correct $\pm \frac{1}{2}$ small square eg 9 minutes for May and 14 minutes for June <i>follow through 3D</i>
Task 3 Step F	1	1	valid comment referring to / comparing both averages eg June's average time late was greater than May's
Task 3 Step G	2 no marks for repeat calc	2	a complete correct check of any original calculation seen in 3B or 3D using a different method eg a reverse calculation OR a calculation using approximate values
		1	a correct check which is not finished
			Total for Task 3 15 marks

Example chart for 3E



Level 1 Sample Paper 6

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