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

V1

Sample Paper 7

Level 1 Sample Paper 7

	Mark	Represent	Analyse	Interpret	Open	Fixed					
1A	1	1	0	0	0	1					
1B	8	3	5	0	8	0					
1C	4	0	0	4	4	0					
1D	2	1	1	0	2	0	5	6	4	14	1
2A	1	1	0	0	0	1					
2B	5	2	3	0	5	0					
2C	4	0	0	4	4	0					
2D	3	1	2	0	0	3					
2E	2	1	1	0	2	0	5	6	4	11	4
3A	2	1	1	0	0	2					
3B	3	1	2	0	0	3					
3C	3	1	1	1	3	0					
3D	4	0	0	4	4	0					
3E	1	0	0	1	1	0					
3F	2	1	1	0	2	0	4	5	6	10	5
	45	14	17	14	35	10					
		31%	38%	31%	78%	22%					

Functional Skills Mathematics

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)

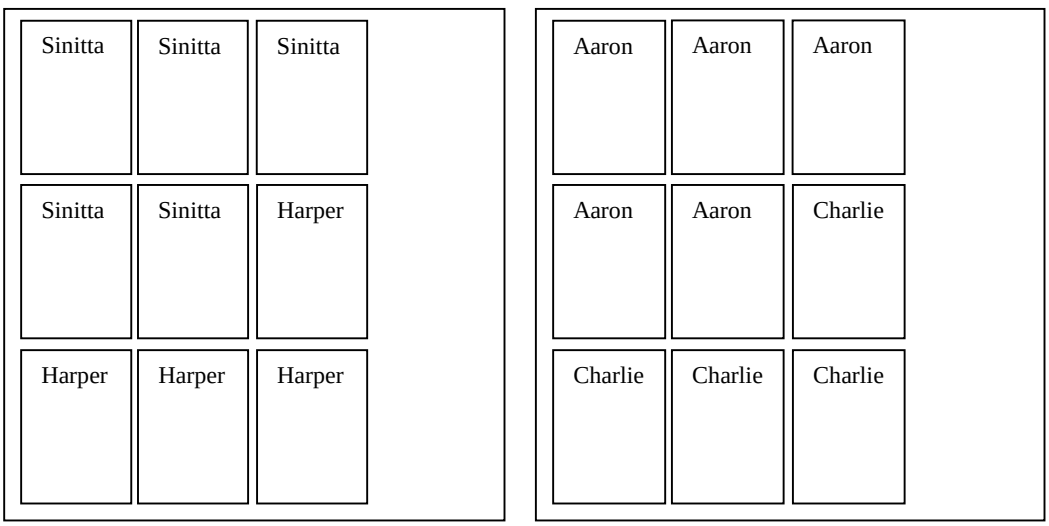
NB incorrect money format given as an answer should only be penalised **once** on the whole paper and will lose 1 mark eg grapes = (£)1.2 in Task 1B will lose 1 mark. Do not penalise any subsequent incorrect format.			
Maths Level 1: Sample Paper 7 – Task 1			
Step	**Total marks**	**Marks**	**Marks awarded for**
Task 1 Step A	**1**	**1**	**list of items with corresponding prices ie egg (£)2.30, ham (£)2.50, salmon (£)2.90, grapes (£)1.80, fruit salad (£)3(.00) *accept spelling errors if meaning is clear***
Task 1 Step B	**8**	**8**	**all discounted prices correct ie salmon (£)2.32, ham (£)2(.00), egg (£)1.84, grapes (£)1.20, fruit salad (£)2(.00) *follow through 1A***
		If 8 marks not achieved, then apply the following 2-part mark scheme	
		Calculation of percentage discount for sandwiches *follow through their 1A*	
		4	**three discounted prices for sandwiches ie salmon (£)2.32, ham (£)2(.00) and egg (£)1.84**
		3	two discounted prices **or** three discounts ie salmon 58(p), ham 50(p) and egg 46(p)
		2	one discounted price **or** correct method for discounted price eg full price – discount or x 80/100 or 0.80 or equivalent *do not accept x 80%*
		1	correct method for one discount eg x 20/100 or equivalent *do not accept x 20%*
		Calculation of fraction discount for fruit *follow through their 1A*	
		4	**two discounted prices for fruit snacks ie grapes (£)1.20 AND fruit salad (£)2(.00)**
		3	one discounted price **or** two discounts ie grapes 60(p) or (£)0.60 and fruit salad (£)1(.00)
		2	one discount **or** correct method for discounted price eg full price – discount or x 2/3 *do not accept x 0.66*
		1	correct method for one discount eg x 1/3 *do not accept x 0.33*
Task 1 Step C	**4**	**1**	**table with clear structure and headings for at least two of item, original price, new price and number of packs**
		1	**all necessary delineation shown**
		2	**all data entered in table including item, original price, new price and number of packs and units**
		1	data entered with one omission or set of omissions eg number of packs not included or no units
Task 1 Step D	**2** **no marks for repeat calc**	**2**	**a complete correct check of any original calculation seen in 1A, 1B or 1D 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 Task 1C

Reduced item	Normal price	New price	Number of packs
Salmon sandwich	£2.90	£2.32	2
Ham sandwich	£2.50	£2.00	4
Egg sandwich	£2.30	£1.84	3
Grapes	£1.80	£1.20	1
Fruit salad	£3.00	£2.00	1

Maths Level 1: Sample Paper 7 – Task 2			
Step	**Total marks**	**Marks**	**Marks awarded for**
Task 2 Step A	**1**	**1**	**18 (certificates)**
Task 2 Step B	**5**	**5**	**12 (certificates)**
		4	(100 ÷ 30) x (100 ÷ 22) **or** 3 x 4 **or** 24 (on two notice boards)
		3	4 (in a row) **and** 3 (rows) written or drawn **or** method for number in a row eg 1 ÷ 0.22 **or** 100 ÷ 22 **and** method for number of rows eg 1 ÷ 0.3(0) **or** 100 ÷ 30
		2	4.*54545454545* URT **or** 3.*3333333333* URT **or** method for number in a row eg 1 ÷ 0.22 **or** 100 ÷ 22 **or** method for number of rows eg 1 ÷ 0.3(0) **or** 100 ÷ 3
		1	0.22(m) **or** 0.3(0)(m) seen **or** 22 ÷ 100 **or** 30 ÷ 100 **or** 100(cm) for a dimension of notice board
Task 2 Step C	**4**	**1**	**(rough) sketch showing two squares (boards), allow rectangles if dimensions 1m x 1m shown**
		1	**18 certificates shown on two boards as max of 3 rows with a max of 4 in each** ***follow through 2A***
		1	**at least two certificates shown in correct orientation ie rectangles and portrait**
		1	**sufficient labelling of their certificates to show required arrangement**
Task 2 Step D	**3**	**3**	**(£)37.50**
		2	correct method eg 18.75 + 18.75 or 2 x 18.75
		1	$2m^2$ with units (for total area)
Task 2 Step E	**2** **no marks for repeat calc**	**2**	**a complete correct check of any original calculation seen in 2B or 2D using a different method** **eg a reverse calculation OR a calculation using approximate values** *Note to centres:* *This step would normally have a check of scale. As scale drawing is not required, candidates are asked to do a normal calculation check.*
		1	a correct check which is not finished
			Total for Task 2 15 marks

Example sketch for Task 2C

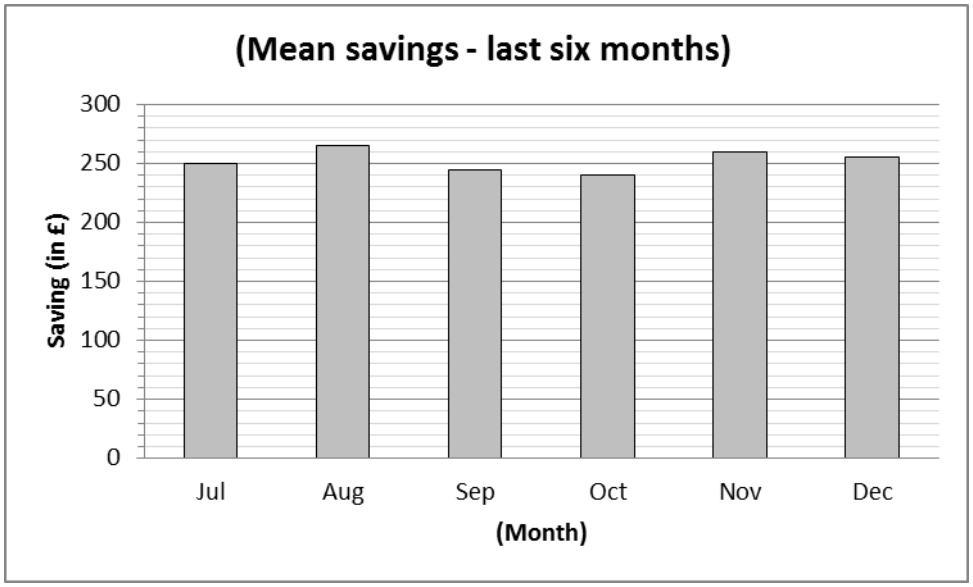


Maths Level 1: Sample Paper 7 – Task 3			
Step	**Total marks**	**Marks**	**Marks awarded for**
Task 3 Step A	**2**	**2**	**all of (£)250, (£)200, (£)275, (£)315, (£)170, (£)290 and (£)380**
		1	any 5 correct values
Task 3 Step B	**3** **No marks for median or mode**	**3**	**(£)270 (mean)** ***follow through their values in 3A***
		2	complete correct method for mean with one calculation error or the omission of two values for savings
		1	(£)2430 **or** total of their values in 3A **or** ÷9 seen
Task 3 Step C	**3**	**3**	**see table below for all calculations relevant calculation AND decision eg for Miss TF, 1520 × 0.2 = (£)304 (is less than £365) AND true (or yes or it works) eg for Miss TF, 365÷1520×100 = 24.*01315789*% URT (is more than 20%) AND true (or yes or it works)** ***follow through their 3A***
		2	value of 20% of cost with old company without decision or with wrong decision eg for Miss TF (£)304 **or** value for % saving eg for Miss TF 24.*01315789*% URT without decision or with wrong decision **or** complete correct method with one calculation error
		1	correct method for % saving **or** method for calculating 20% seen eg x 0.2 or ÷ 100 x 20

Old	Old - 20%	New	Name		Saving	20% of old		% saving on old price
£1520	£1216	£1155	Miss T F		£365	£304		24.*01315789* URT
£880	£704	£695	Ms J N		£185	£176		21.*02272727* URT
£1195	£956	£945	Mr T P		£250	£239		20.*92050209* URT
£890	£712	£690	Mrs B G		£200	£178		22.*47191011* URT
£1100	£880	£825	Mr J G		£275	£220		25
£1315	£1052	£1000	Ms D S		£315	£263		23.*95437262* URT
£795	£636	£625	Mrs L H		£170	£159		21.*3836478* URT
£1260	£1008	£970	Mr R F		£290	£252		23.*01587302* URT
£1725	£1380	£1345	Mr M C		£380	£345		22.*02898551* URT

Task 3 Step D	**4** **no marks available for table**	**1**	**bar chart or line graph showing the means for July to December AND vertical axis label with units AND bar labels/key if title present this may be used to clarify or substitute vertical axis label**
		1	**suitable continuous linear vertical scale starting from zero (implied) and going to at least 265 or sufficient for their values**
		2	**all six bar heights or plots correct ± ½ small square ie 250, 265, 245, 240, 260, 255**
		1	one bar height or plot for period July to December
Task 3 Step E	**1**	**1**	**valid comment relating to purpose of task, savings or the average savings** **eg Yesterday's average saving was £270** **eg In the last 6 months on average customers saved at least £240** **eg In the last year the highest average saving was £285** **eg Miss TF saved over 24%** **eg You can save at least £200 on average** **eg In the last 12 months customers saved £26*2.08* on average URT** **eg In the last 6 months customers saved £25*2.50* on average URT** **eg Mr MC saved the most yesterday (£380)** **Do not accept 'save 20%'**
Task 3 Step F	**2** **no marks for repeat calc**	**2**	**a complete correct check of any original calculation seen in 3A, 3B or 3C 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 bar chart for Task 3D



Level 1 Sample Paper 7			
Coverage and Range (Technical Skills)	**Section 1**	**Section 2**	**Section 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			