Level 1 Functional Skills Mathematics

SAMPLE 3

Mark scheme
16 June 2020
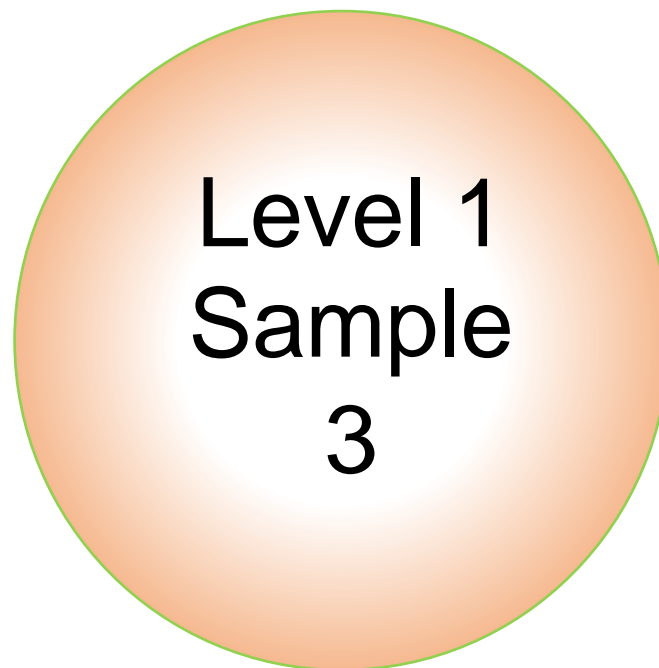
Level 1
Sample
3

Guidance notes for Mark Schemes
Level 1 and Level 2

Notes for marking open response Problem Solving questions in Section 2:

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. There is no follow-through between questions, but may be in multi-stage calculations within a question.

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 eg by brackets ie pounds must have two decimal places or no decimal places unless otherwise stated.
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.

The 3rd and 4th columns of the mark schemes show the marks to be given for specific responses. Marks in bold are for fully correct answers. Where full marks are not achieved, examiners will award the marks that correspond to the responses given in the grey rows below. Any unforeseen but creditable responses are noted during the early stage of marking and are considered and, where appropriate, added to the mark scheme by the Chief Examiner when the mark scheme is finalised.

Where the marks are awarded for a *complete correct method with one calculation error*, examiners give the mark for a substantially correct solution with a single accuracy error or single (or consistent) early rounding, but not with a method error.

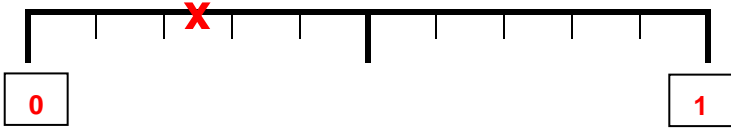| Question	Total marks	Marks	Marks awarded for	Item type	Subject content ref
			Maths Level 1 Sample 3: Section 1 – CALCULATOR NOT PERMITTED		
			Candidates must not lose marks for incorrect spelling.		
1	1	1	**4700**	UPK Short answer fixed response	SCS3 [1]
2	1	1	**B**	UPK MC fixed response	SCS8 [1]
3	1	1	**0.08**	UPK Short answer fixed response	SCS16 [1]
4	1	1	**144**	UPK Short answer fixed response	SCS6 [1]
5	1	1	**7.29**	UPK Short answer fixed response	SCS12 [1]
6	1	1	**14**	UPK Short answer fixed response	SCS7 [1]
7	1	1	**158(minutes)**	UPK Short answer fixed response	SCS20 [1]
8	1	1	**120(metres)**	UPK Short answer fixed response	SCS9 [1]
9	1	1	**A**	UPK MC fixed response	SCS10 [1]
10	1	1	**D**	UPK MC fixed response	SCS25 [1]
11	2	2	**6.4(m)**	Problem solving Short answer fixed response	SCS11 [1] SCS22 [1]
		1	correct method seen eg 2 + 1.2 + 2 +1.2		
12	3	3	**12m³ with units**	Problem solving Short answer fixed response	SCS11 [1] SCS23 [1]
		2	12(m³)		
		1	complete correct method with one calculation or rounding error eg 8 x 3 x 0.5		
			Total for Section 1		**15 marks**

Candidates must not lose marks for incorrect spelling.
NB incorrect money format given as an answer should only be penalised **once** on the whole paper and will lose 1 mark Do not penalise any subsequent incorrect format.

Question	Total marks	Marks	Marks awarded for	Item type	Subject content ref
1	1	1	£6.85	UPK Short answer fixed response	SCS14 [1]
2	1	1	B	UPK MC fixed response	SCS26 [1]
3	1	1	25(metres)	UPK MC fixed response	SCS2 [1]
4	1	1	(£)375	UPK Short answer fixed response	SCS18 [1]
5	1	1	25(^{0}C)	UPK Short answer fixed response	SCS27 [1]
6	1	1	recognition that 14g is the wrong order of magnitude for weight eg he mistakes grams for kilograms eg 14g is far too small	Problem solving Short answer open response	Check [1] (SCS20)
7	2	1	**Toddler B**	Problem solving Short answer open response	SCS20 [1] SCS27 [1]
		1	explanation with reference to age and at least one feature eg between 6 months and 4 years old and also it is front facing and uses a harness.		
8	3	3	correct completion of rota ie Sue - 3 days, Dave - 2 days eg	Problem solving Short answer open response	SCS17 [2] SCS27 [1]

	Name		Name
Day 1	Dave	Day 9	Dave
Day 2	Dave	Day 10	Sue
Day 3	Dave	Day 11	Dave
Day 4	Dave	Day 12	**DAVE**
Day 5	Dave	Day 13	**SUE**
Day 6	Dave	Day 14	**SUE**
Day 7	Dave	Day 15	**SUE**
Day 8	Dave	Day 16	**DAVE**

		2	12(Dave) **and** 4(Sue) for days required		
		1	11(Dave) **and** 1(Sue) for days already worked **or** 12 (Dave) **or** 4 (Sue) **or** ÷ 4		

9	4	2	0.25 or 25% or ¼ accept $\frac{5}{20}$ or 5 out of 20 or 5 in 20 do not accept 5:20 or 1:4	Problem solving Short answer open response	SCS27 [2] SCS30 [1] SCS31 [1]
		1	20 seen for correct addition of bars **or** 5 seen for bar height (Jim)		
		1	0 and 1 labelled for end points of scale OR 0% and 100% for end points of scale OR impossible and certain for end points of scale		
		1	correct position shown for their probability ± ¼ of a small section do not allow this mark if scale end points are incorrect		
		eg			
10	4	3	correct grouping of bags of crisps with 3 equal group boundaries and correct totals or actual numbers for each group eg | Weight of bag of crisps	24.0 – 24.9	25.0 – 25.9	26.0 – 26.9
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Number in each group	8	10	2 | eg 24.0 – 24.9 24.4, 24.7, 24.5, 24.9, 24.3, 24.2, 24.4, 24.5 25.0 – 25.9 25.3, 25.5, 25.2, 25.1, 25.0, 25.1, 25.3, 25.4, 25.1, 25.2 26.0 – 26.9 26.5, 26.0	Problem solving Short answer open response	SCS1 [1] SCS28 [3]
		2	all 20 weights listed with correct grouping without boundaries stated or correct grouping of all 20 weights, but unequal group boundaries or correct grouping of all 20 weights with overlapping boundaries		
		1	some attempt to group weights seen		
		1	valid comment based on their grouped data eg more than half of the bags of crisps weighed 25g or more eg the least number of bags weighted more than 26g eg 40% of the bags were underweight (25g) eg only one weighed the exact weight		

11	**4**	**4**	**1 minute 6 seconds OR 66 seconds**	Problem solving Short answer open response	SCS17 [2] SCS20 [2]
			If 4 marks not achieved apply the following 2 part mark scheme		
		2	**30(lengths) seen**		
		1	1500(metres) or ÷ 50		
		2	**time in minutes and seconds or seconds from 33(mins) ÷ their number of lengths eg 1 minute 6 seconds**		
		1	time in decimals from 33(mins) ÷ their number of lengths eg 1.1 minutes		
12	**4**	**3**	**42(m²)**	Problem solving Short answer open response	SCS17 [1] SCS22 [3]
		2	9(m²) **and** 33(m²) **or** 18(m²) **and** 24(m²) **or** 66(m²) **and** 24(m²) complete correct method with one calculation or rounding error		
		1	9(m²) **or** 33(m²) **or** 18(m²) **or** 24(m²) **or** 66(m²) **or** 24(m²) **or** 11(m) **and** 3(m) for unlabelled dimensions		
		1	**value for number of bags for their area ÷ 14 eg 3(bags) from 42 ÷ 14**		
13	**6**	**2**	**correct average distances 7.5(km) mean Player A AND 7.1(km) mean Player B accept median values 7.4 (A) AND 7.3 (B)**	Problem solving Short answer open response	SCS29 [6]
		1	7.5(km) mean Player A **or** 7.1(km) mean Player B accept median values 7.4 (A) **or** 7.3 (B)		
		2	**correct ranges 1.9(km) Player A AND 2.1(km) Player B**		
		1	1.9(km) Player A **or** 2.1(km) Player B **or** max and min values 8.7 **and** 6.8 (A) **and** 7.9 **and** 5.8 (B)		
		1	**suitable comment with reference to averages eg Player A better work rate higher average eg Player A average > Player B average**		
		1	**suitable comment with reference to range eg Player A more consistent work rate (lower range) eg Player B more varied work rate (higher range)**		

14	6	5	(£)614 (total cost of membership) AND (£)662 (total cost of non-membership) for a year	Problem solving Short answer open response	SCS3 [3] SCS19 [1] SCS27 [2]
		4	(£)614 **or** (£)662 for a year		
		3	Complete correct method for either members or non-members costs with one calculation or rounding error or omission of one item cost (eg one insurance missed or one non-members charge missed)		
		2	(£)432 for membership for both **or** (£)442 for non-members fees for both **or** (£)76 or (£)152 for discounted uniform **or** (£)30 for insurance x 2 **or** (£)190 for uniforms x 2 **or** X 26 for weeks that non-members will be charged		
		1	(£)240 (adult membership) **or** (£)192(child membership) **or** (£)110 (insurance and uniform for one person) **or** method for discount eg X 0.2 **or** ÷ 100 X 20 **or** X 0.8 seen		
		1	**decision consistent with their results AND explanation including figure(s) eg Members because (£)614 < (£)662 eg Members because its (£)48 cheaper**		

15	6	3	4 rectangles drawn to scale +/- ½ small square in zone 3 ie 4 rectangles drawn 3cm by 1.8cm	Problem solving Short answer open response	SCS21 [3] SCS24 [2] SCS25 [1]
		2	1 rectangle drawn to scale +/- ½ small square in zone 3 **or** 4 rectangles each with 2 parallel sides drawn to scale +/- ½ small square in zone 3		
		1	1 rectangle with 2 parallel sides drawn to scale +/- ½ small square in zone 3		
		1	**key or label for at least 1 trampoline**		
		1	**rectangles drawn symmetrically in zone 3**		
		1	**2 lines of symmetry shown +/- ½ small square in zone 3**		

eg diagram for S2Q15
note other arrangements for symmetry acceptable

Ground floor plan of Trampoline Park

	Total for Section 2 45 marks