Functional Skills Mathematics Level 1 sample assessment

Marking scheme

Sample paper 1

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Functional Maths Level 1: Task 1: 16 marks			
Task 1	**Total marks**	**Marks**	**Marks awarded for**
1A	**3**	**3**	**1 medium, 1 large**
		2	15(kg) for the total weight of wax **or** 15000 seen and 2 large (accept large identified by weight or price) **or** 15000 seen and 3 medium (accept medium identified by weight or price) **or** 15000 seen and 19 small (accept small identified by weight or price) **or** complete correct method with one calculation error that identifies their cheapest way of buying the wax
		1	15000 (g of wax) seen **or** 200 × 75 seen for the total weight of wax **or** ÷1000 seen for conversion of g to kg
1B	**4**	**4**	All prices in the correct cells **and** total cost of **(£)143.15** [ignore incorrect number(s) on order form if costs correct] ***Throughout 1B, allow follow through from 1A***
		3	All four components seen as correct, (not necessarily in table) ie tins (£)88, wax (£)10.90, medium wax (£)16.50, large wax (£)27.75 **or** any three components correct, with their total cost correct
		2	Both tins and wicks seen as correct, ie tins (£)88 and wax £10.90 **or** either tins or wicks correct, and wax correct **or** either tins or wicks correct, with their total cost correct
		1	Any one of tins, wicks or wax seen as correct
1C	**2**	**2**	Between **(£)79.20 and (£)84 inclusive**, eg £80
		1	6.666666 (hours) URT seen **or** 40(p) per candle seen **or** a correct method of 200 ÷ 30 then their answer × 12 seen
1D	**2**	**2**	Between **(£)1.11 and (£)1.14 inclusive** ***Allow follow through, ie (their total cost in 1B + their 1C) ÷ 200***
		1	A correct method seen (allow follow through as above)
1E	**1**	**1**	Shows understanding that **percentage profit affects price**, eg greater profit means more money, **or** that less profit means more (likely) sales / more competitive
1F	**2**	**2**	Applies their % profit to find their **correct selling price**. [Do not accept 0% profit] ***Allow follow through from 1D.***
		1	a correct method to find a percentage seen, eg ÷ 2 for 50%
1G	**2**	**2**	**a complete correct check of any of their answers or any interim stage, eg a repeated or reverse calculation or a calculation using approximate values** **or a complete check of a CORRECT answer or value without sight of an original calculation**
		1	a correct check which is not finished

Functional Maths Level 1: Task 2: 14 marks			
Step ref	**Total marks**	**Marks**	**Marks awarded for**
2A	**2**	**1**	a **vertical line 2cm** (± 1mm) from the garden pond
		1	a **horizontal line 2cm** (± 2mm as line of trees less well defined) from the trees Note: if candidates draw the Cambridge deck to scale on the plan, award these two marks provided all the constraints within the step are met.
2B	**1**	**1**	Indicates **Cambridge** (accept indication by size or price) ***Allow follow through from their 2A, ie the largest decking that will fit on their plan***
2B cont.	**2**	**2**	Gives a complete explanation that refers to both dimensions, eg **Converts decking to cm and compares to plan**, ie 3.6m is 7.2cm which is less than 7.5cm on plan 3.0m is 6.0cm which is less than 6.5cm on plan **or converts plan to m and compares to decking**, ie 7.5cm is 3.75m which is more than 3.6m for the decking 6.5cm is 3.25m which is more than 3.0m for the decking **or draws the decking accurately on the scale plan** ***Allow follow through from their scale drawing in 2A and from their decking in 2B*** Also condone dimensions rounded or truncated provided it is does not affect the fit.
		1	Refers to one dimension correctly, even if the other dimension is incorrect or omitted **or** draws one dimension accurately on the scale plan.
2C	**5**	**5**	**Shows sufficient working to justify their correct number of tins to paint their choice of deck twice (see table)** As the number of tins can be guessed, at least correct working for the area of the deck must be seen, or equivalent (candidates could reason that the varnish in the tin covers 3m by 5m, for example, then compare to the area of the deck) Throughout, ignore incorrect units
		4	Shows sufficient working to justify their correct number of tins to paint their choice of deck once **or** complete correct method with one calculation error eg 3(m) x 2.4(m) x 2 (coats) ÷15 (m^2) [Note that ÷ 15 may not be seen as candidates can subtract the area twice from coverage of varnish, or double the amount of varnish, or the number of tins can be found by inspection]
		3	Correct area of decking x2, or equivalent
		2	Correct area of decking, or equivalent
		1	Correct method for finding area or incorrect area, but ÷15 or ÷20, or equivalent, seen

Model	**dimens (m)**	**area (m^2)**	**x 2 coats**	**÷15 (tins)**	**÷20 (tins)**
Oxford	3.0 x 2.4	7.2	14.4	0.96, so 1	0.72, so 1
Cambridge	3.6 x 3.0	10.8	21.6	1.44, so 2	1.08, so 1or 2
Durham	4.0 x 3.6	14.4	28.8	1.92. so 2	1.44, so 2
York	5.0 x 4.2	21.0	42.0	2.8. so 3	2.1, so 2 or 3

2D	**2**	**2**	**Correct total cost for their choice of decking and their number of tins of paint** eg (£)174.99 for Oxford or (£)238.98 for Cambridge [or (£)218.99 if only one tin indicated] or (£)264.98 for Durham or (£)288.98 for York [or (£)308.97 if 3 tins indicated] ***Allow follow through from their answer to 2B and 2C***
		1	For calculations that require more than 1 tin, a complete correct method for total cost with one calculation/reading error For calculations that require only 1 tin, a correct method for total cost with one reading error
2F	**2**	**2**	**a complete correct check of any of their answers or any interim stage eg a repeated or reverse calculation or a calculation using approximate values** **or a complete check of a CORRECT answer or value without sight of an original calculation**
		1	A correct check which is not finished

Functional Maths Level 1: Task 3: 15 marks			
Step	**Total marks**	**Marks**	**Marks awarded for**
3A	**2**	**2**	**Team 2 with justification, eg (£)920 seen** Accept team 2 identified unambiguously, eg Sales, and accept the justification seen anywhere on the page
		1	Team 2 with no or incorrect justification, or any two of 640, 920 and 600 seen
3B	**3**	**3**	**Team 3 with justification, eg (£)200 clearly linked to the average** Accept team 3 identified unambiguously, eg the team with 3 people in, but as the mean is the same as the value raised by each it must be explicit that 200 is also the mean
		2	Any correct mean shown, eg 160 for team 1 or 184 for team 2 or 200 from correct working for team 3
		1	A correct method to find a mean shown, ie adding all values and dividing by the correct number, even if there is a computational error when adding **or** team 3 with no justification
3C	**5**	**1**	**Suitable titled presentation style including a bar chart** *Note: no mark here for a line graph or scatter graph. Accept a pie chart, even though unlikely given the provision of graph paper.*
		1	**Suitable axis labels with units** for bar chart/line graph/ scatter graph **or money values** indicated on pie chart ie £
		1	**Continuous vertical scale** starting at (implied) 0 going to at least 920 (or sufficient for their values) **or sectors labelled or key** for pie chart
		2	**Their 3 values (3 teams' amounts raised) plotted at correct heights ±1 small square on bar chart** **Ignore scale discontinuity at either extreme if plots can be reasonably identified as correct.** **or all 3 values (3 teams) correct ±1 percentage point for pie chart with units**
		1	One height correct on bar chart ±1 small square **or** their 3 values (3 teams' amounts raised) plotted at correct heights ±1 small square on line graph/scatter graph **or** one correct sector on pie chart ±1 percentage point
3D	**3**	**3**	**(£) 3150**
		2	Shows (£)2100 **or** shows (£)1050 or their correct total for the manager's contribution, following through from their incorrect 2100
		1	Shows 15 × 140 or equivalent **or** shows a correct method to find the manager's contribution, eg ÷ 2
3E	**2**	**2**	**a complete correct check of any of their answers or any interim stage eg a repeated or reverse calculation or a calculation using approximate values** **or a complete check of a CORRECT answer or value without sight of an original calculation**
		1	a correct check which is not finished

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