

Mark Scheme (Results)

March 2010

Functional Skills

Functional Skills Mathematics - FM201

Paper: FM201/01

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No	Process	Evidence	Mark	Notes
Q1(a)	Decide and Justify	Yes with reason/s. See notes Yes may be implied.	1 or	Yes with one reference
			2	Yes with a general trend identified or Yes with 1 reference and reference to the rest. Yes with 2 or more references.
Q1(b)	Decide and Justify	Decision Y/N/ do not know See Notes	1 or	Valid reason without decision.
			2	Valid reason with decision.
Q2	Cal reduction per day. M1	Converts percentage 'Correct' cal's per day	1 or	[0.1, 0.2] or equivalent fraction may be implied
			2	[300, 600]
	M2	Total Calorie loss	1	3500×8 seen or implied.
	How many days to lose 8lbs M3	Method used Answer obtained Appropriate rounding from consideration of [300,600]	1 or	eg: '28000' ÷ 'cal per day' trial and error, successive addition
			2 or	Evidence that calc is processed to an answer
			3	eg: 93.3 becomes 94 days. This must come from '28000' No errors in calculations. Premature rounding precludes this mark.

No	Process	Evidence	Mark	Notes
Q3	Time conversion M1	conversion seen/ implied One activity processed	1 or	For example: $3/4\text{hr} = 45\text{min}$ or $1/2\text{hr} = 30\text{mins}$. Typically decimals
			2	For example: 250 or 300 seen or any correct figure.
	Constraints Handled M2	Days and activities.	1	All days present (allow weekend as a block of time) free day handled and all activities evidenced.
			1 or	At least one non – free day where calorie consumption figures are explicit and within constraints. Watch for swim/jog daily limits.
	Calorie Calculations M3	Calorie consumption Within constraints	2	All days where calorie consumption figures are explicit And within all constraints. Watch for swim/jog daily limits.
			1 or	Presents Day and Activity and (Time or Calorie) for at least 5 days (can include ‘free day’)
	Presentation M4	Activity / Time / Calories	2	Presents Day and Activity and Time and Calorie. (week) no errors in any calculations
			1	[2500, 3000] Candidate totals need checking if necessary.
Calorie limits M5	Programme meets constraints	1		

No	Process	Evidence	Mark	Notes
Q4	Partition a number with constraints. M1	Begins to partition 48 Correct partition	1 or	At least two of (1,2,3,4,6,8,16,24) Eg: 2,3 or 4,6 or 8,3 or 6,8 etc repeats are OK 4,24 or 6,16 etc are not valid partitions
			2	(2,4,6) or (3,4,4) seen or implied
	M2	From correct partition	1 or	Working with three dimensions.
			2	One box identified with correct dimensions and units present.
Q5	Selects Quantity M1	A Tin amount is chosen Dog weight fully accounted for	1 or	[1.25, 2] or [1.5, 2]
			2	(1.25, 1.5) and (1.5, 2)
	Enables a Comparison M2	Two terms evidenced Decision made	1 or	$1.25 \times$ [their tin number] or $0.9 \times$ [their tin number]
			2	The decision must be made upon initial consideration of the open intervals (1.25,1.5) and (1.5,2)

No	Process	Evidence	Mark	Notes
Q6	Uses Formula	Calculates perimeter	1 or	4.31 + 4.27 seen or implied. Accept inches
	M1		2	17.16 or equivalent DP/SF area scores zero
	Calculates Perimeter	Substitutes numbers Numerator calculation	1 or	('17.16' × 2.7) ÷ (0.5 × 10) Whatever they have calculated for perimeter, correctly substituted.
			2 or	eg : '46.332' ÷ (0.5x10)
	M2	'9.2664'	3	'9.2664' or equivalent by DP/SF
	M3	Rounds their answer	1	'10' 10 without working does not score

No	Process	Evidence	Mark	Notes
Q7	Determine BTU for the room M1	Identifies criteria. . Criteria can be identified in a variety of ways 8871.45	1 or	One of $\times 170$, Add 15%, Deduct 10%
			2 or	Two of $\times 170$, Add 15%, Deduct 10%
			3 or	All three of $\times 170$ Add 15% Deduct 10%
			4	Correct rounding award the mark.
	Radiator Restriction M2	Height of room.	1 or	$2/3 \times 2.7 = 1.8$ (this may be implicit) For example, choice of 060 and 600 type radiators
			2	Convert to mm (this may be implicit)
	Radiator Decision M3	Chooses two radiators that have a combined BTU nearest to Reception room BTU Two radiator pairs are possible	1 or	Evidence of a sum that includes two valid Rad BTU Allow for their radiator height or their BTU $BTU \div 2$ is OK here
2			Must be from Reception room BTU of 8871... or 8744... ie: for BTU 8871 sight of 4562 and 4043 (8605) or sight of 3647 and 5473 (9120) Model numbers can also identify radiators. ie: 060/074 and 170/044 or 3647 and 5473 Proceed with BTU of 8744 in a similar manner.	

No	Process	Evidence	Mark	Notes
Q8	M1	Addresses a feature	1 or	Converts a feature of the situation eg: 0.75m =75cm, 5cm=0.05m may be implied
		Addresses area	2 or	Two of seen (15,45,75,95,125) or Two of seen(3,9,15,19,25) may be implied
		Progressing area		
	How many tiles	Considers filling a space How many tiles	1 or	5x5 or 0.05x0.05 or 'area' ÷ 'area of kite'
			2	375 or 204 or 171 seen or implied
	M2	understands ratio For their tile amount. Correct answer	1 or	x/3
			2 or	'57' and '114'
			3	204 and 57 and 114 and Any colour assigned to figures.
	M3			

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