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Mark Scheme (Results)
January 2011

Functional Skills

Functional Skills Mathematics Level 2 (FSM02)

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question	Process	Mark	Mark Grid	Evidence
Q1 (a)	Find income from entry or from stalls	1 or	AA	546 × 75(=409.50) **or** 123.80+172.45(=296.25) **or** '409.5'+'296.25'
	Finds correct total	2	AA AB	(£)705.75 cao
Q1 (b)	Finds profit ft	1	AC	'705.75' – 75.30 =(£)630.45 ft
Q1 (c)	Writes appropriate check	1	AD	**ft** 630.45 + 75.30 **or** estimates using rounded values **or** reverse process for any calculation leading to 705.75
Total marks for question		**4**		

Question	Process	Mark	Mark Grid	Evidence
Q2				May be seen in points table or results table or working box:
	Finds time points for one dog	1 or	AE	Finds time points for one dog (20 or 15 or - 8)
	Finds total points for one dog **or** time points for all dogs	2 or	AE AF	finds total points for one dog (15 or 0 or – 18) ft **or** all of time points (20, 15, - 8)
	Finds total points for one dog **and** time points for all dogs	3 or	AE AF AG	finds total time points for all dogs (20, 15, -8) **and** total points for 1 dog (15, 0, - 18)
	Finds total points for all dogs	4	AE AF AG AH	Finds all total points 15, 0,-18
	Compares five totals to give correct positions	1	AJ	Correct results table M, J, P, R, N or **18**, '15', '0', **−10**, '−18' in order or 4, 1, 2, 3, 5 ft shown in the points table
	Total marks for question	**5**		

Question	Process	Mark	Mark Grid	Evidence
Q3 (a)	Makes a scale drawing of the fence	1 or	AK	Draws a square (or rectangle) which surrounds the roundabout without overlapping or touching
		2	AK AL	Draws a square to enclose the roundabout at a distance of 2m to 3m
Q3 (b)	Works out perimeter	1 or	AM	finds perimeter of their fence in squares or cm or m dependent on mark awarded for AK
	Uses scale to find perimeter	2 or	M AN	Total length of fence [80,88] Correctly uses scale to find correct length of their fence
	Finds cost	3	AM AN AP	(dependent on AM) [£55.20, £60.72] correct money notation
Q3 (c)	Works out Circumference	1 or	AQ	Substitutes diameter of 16 into the formula $C=16\pi$ **Or** shows a method of measuring the circumference e.g. drawing a number of straight sides touching the circle.
		2	AQ AR	Gives value for circumference between 50.2(m) and 50.3(m), **or** $16\times3=48$(m)
	Total marks for question	**7**		

Question	Process	Mark	Mark Grid	Evidence
Q4	Works out finish times for each journey on the booking sheet	1 or	BA	Gives correct time for 1 customer (9.45, 10.35, 7.45, 10.05) Allow if shown on schedule
		2	BA BB	Gives correct times for all customers Allow if shown on schedule
	Completes schedule for cars	1 or	BC	Adds one booking (name and time) correctly to the schedule (ft)
		2	BC BD	Correctly schedules all 'bookings' (names and times) Accept any recognisable time formats
Total marks for question		**4**		

Cars	07:00	08:00	09:00	10:00
	Mr Smith 7:20-7:45		Mrs Adams 9:25 -9:45	Miss Crispi 10:10-10:35
			Mr Michel 9:40-10:05	

Only other constraint is Miss Crispi may not follow Mr Michel

Question	Process	Mark	Mark Grid	Evidence
Q5 (a)	Appropriate graph would be dual bar chart, composite bar chart, pair of frequency diagrams	1 or 2 or 3 or	BE BE BF BE BF BG	One of plotting, linear scale, labels Two of plotting, linear scale, labels Three of plotting, linear scale, labels
Q5 (b)	Makes a simple comparison Makes a statement comparing usage by males with usage by females backed up by frequency data or reference to a particular age group.	1 or 2	BH BH BJ	Makes a simple comparative statement (may be for a single age group) e.g. Females made more journeys than males e.g. The highest number of journeys for females was 16–20 whilst for males it was 21–29 In the 16–20 age group females made almost twice as many journeys as males
Q5 (c)	Chooses advertise to a group with reason	1	BK	Suitable decision with valid reason (may group two age groups)
	Total marks for question	**6**		

Question	Process	Mark	Mark Grid	Evidence
Q6	Works with mpg	1 or 2	BL BL BM	126÷36(=3.5) **or** 5×36(=180) 3.5 **or** 180
	Valid ft decision	1	BN	Valid decision from working. Compares '3.5' with 5 **or** '180' with 126
	Total marks for question	**3**		

Question	Process	Mark	Mark Grid	Evidence
Q7	Attempts to find the correct fare E.g. substitutes into the formula **or** begins reverse calculation States what the correct fare should have been **or** Distance paid for	1 or 2	BP BP BQ	F= 320 + (30×18) $\frac{(1000-320)}{30}$ £8.60 **or** can travel 22.6 km
	Makes decision she was overcharged based on correct substitution	1	BR	Overcharged (ft)
	Total marks for question	**3**		

Question	Process	Mark	Mark Grid	Evidence
Q8 (a)	Finds the number of bales along the back wall	1 or 2	CA CA CB	14.5÷0.9 =16(.1) or scale drawing **or** 14.5÷0.45(=32) 16 bales (can isw)
Q8 (b)	Moves into 3D Works out number of rows or remaining volume or remaining space in bales	1 or 2	CC CC CD	Shows 400 on floor **or** 10 × '16'(=160) **or** 4000÷10(=400) or 5120 bales '25' **or** 4000÷(10× '16') **or** 1120 bales
	Full process to find empty length or area or remaining space in bales on floor	1 or	CE	14.5 – ('25' × 0.45)(=14.5– 11.25) (=3.25) **or** 14.5^2 – 0.9 × 0.45 × 400(=2.75) **or** (5120-4000) ÷ 10(=112)
	States correct dimensions or area	2	CE CF	3.25 by 14.5 **or** 48.25(m^2) **or** 47.125(m^2)
Total marks for question		**6**		

Question	Process	Mark	Mark Grid	Evidence
Q9 (a)	Attempts to work out the total income from the dairy or the amount of milk produced by 1 cow. Finds the correct total	1 or 2	CG CG CH	600 000 × 0.22 **or** 600000×22 **or** 600000÷120 132 000 **or** 13 200 000 **or** 5000 litres
	Works with the cost of keeping 120 cows or 1 cow	1	CJ	60×12×120(=86400) **or** 60×12(=720) **or** 60×120(=7200)
	Calculates the total profit	1 or 2	CK CK CL	'132000' – '86400' or ('5000'×0.22 –720)×120 units must be consistent (£)45600 **or** 4 560 000p
Q9 (b)	Attempts to find amount of milk from 1 cow.	1	CM	600 000÷120(=5000)
	Attempts to find 90% Finds total amount of milk from 1 young cow	1 or 2	CN CN CP	'5000' × 0.9 (oe) 4500 cao
	Total marks for question	**8**		

Question	Process	Mark	Mark Grid	Evidence
Q10	Converts to same units	1 or	CQ	20 × 0.3 (=6) **or** 7.5/0.3 (=25) **or** 0.3×25=7.5
	Decision based on valid calculation or value	2	CQ CR	e.g. it will fit, 6 < 7.5 or 25 > 20
	Total marks for question	**2**		

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