

Mark Scheme (Results) November 2010

Functional Skills

Functional Skills Mathematics Level 2 FSM02

**FUNCTIONAL SKILLS (MATHEMATICS)
MARK SCHEME – LEVEL 2 NOVEMBER 2010**

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Question	Evidence	Mark	Mark Grid	Notes
Q1 (a)	Attempts to find number of 37 cm across width	1 or 2	A AB	÷ 37 seen oe or considers multiples of 37 e.g. $37 \times 3 (= 111)$ or shows diagrammatic representation or 3.0... 3 CAO
Q1 (b)	Converts to equivalent units	1	C	$22 \times 100 (= 2200)$ or $37 \div 100 (= 0.37)$
	Coordinates squares and cushions	1 or	D	$\div 37$ or $\times '3'$ or 59 or $\div 2$ or $\div 74$ or 88.5
	Uses their values to find the total number of cushions	2	DE	88 CAO
Total marks for question		5		
Q2 (a)	Starts to work using total time taken or number of cushions per day	1 or	F	Any pair of calculations in $120 \times 50 \div 60 \div 6$ or any pair in $6 \times 60 \div 50$
	Complete process	2 or	FG	All calculations in $120 \times 50 \div 60 \div 6$ or $120 \div (6 \times 60 \div 50)$
	Correct answer	3	FGH	[16,18]
Q2 (b)	Starts to find cost for making cushions or cost per cushion	1 or	J	$\pounds 8.65 \times 120 (= 1038)$ $\pounds 236 \div 120 (= [1.96, 1.97])$
	Finds total cost of cushion(s)	2	JK	$(8.65 \times 120) + 236 (= 1274)$ or $(236 \div 120) + 8.65$ $(= [10.61, 10.62])$
	Works with 50%	1 or	L	$50/100 \times$ their cost o.e. or $\div 2$ or $\times 5$
	Finds the minimum cost of one cushion	2	LM	[15.90, 16.00] with full correct money notation with £ sign
Total marks for question		7		

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Question	Evidence	Mark	Mark Grid	Notes
Q3 (a)	Calculates the mileage	1	N	15715 – 15582 or attempts subtraction (=133)
	Calculates the total charge for delivery	1 or	P	'133' × 20 or 3 × £26.50 or £79.5(0) or 26.6 (0) seen or 106.1
	Calculates charge for 3 hours Combines mileage and delivery	2	PQ	£106.1(0) or £106
Q3 (b)	Appropriate check	1	R	Any reverse calculation or estimation to check an aspect of their calculation e.g. 133 + 15582 or £80 + £30
Total marks for question		4		
Q4	Compares highest and lowest times, or differences, or works with ranks.	1 or	A	pair of highest and lowest values seen for at least one runner OR looks at rank order for one or more races or works with differences across the weeks
	Works with all runners and all races	2	AB	Range or ranks or differences for all four runners
	Correct (f.t.) conclusion or correct figures for comparison	1 or	C	correct statement from their figures OR correct figures
	Correct conclusion and evidence	2	CD	Correct statement (David) AND correct figures
Total marks for question		4		

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Question	Evidence	Mark	Mark Grid	Notes
Q5 (a)	Starts to calculate water consumption before training	1 or	E	[15, 20] + [8, 10] or [23, 30] or 23 - 30
	Correct process seen With explanation	2	EF	[23, 30] or 23 - 30 with supporting calculation
Q5 (b)	Starts to calculate the total number of fluid ounces needed	1 or	G	e.g. 4 per hour 3×4 or $3 \text{ hours} \div \frac{1}{4} \text{ hour} (= 12)$
	Complete process	2 or	GH	$3 \times 4 \times [8, 10] (= [96, 120])$ OR $\div 35$ or $35 \div [8, 10]$
	Starts to calculate the total number of bottles	3	GHJ	$3 \times 4 \times [8, 10] \div 35$ OR $35 \div [8, 10] \times (3 \div \frac{1}{4})$
	Complete process and considers rounding	1	K	Accept 3 or 4 bottles only
Total marks for question		6		
Q6	Starts to substitute in formula	1	L	Substitutes 38 and 400, $400 = 6.28 \times 38 + 2T$ Or uses $2\pi \times 38$ with 400
	Works with circumference	1 or	M	6.28×38 or $2 \times 3.14 \times 38$
	Evaluates circumference	2	MN	[238, 239]
	Attempts to find length of straights	1 or	P	400 – any value
	Attempts to find length of 1 straight	2 or	PQ	$(400 - "[238, 239]") \div 2$
	Complete answer	3	PQR	[80, 81] to no more than 2 dp
Total marks for question		6		

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Question	Evidence	Mark	Mark Grid	Notes
Q7 (a)	Any suitable table with columns or rows labelled appropriately	1 or	A	rows or columns labelled Jan to June
	Any suitable table with columns and rows labelled appropriately	2	AB	rows or columns labelled Jan to June AND columns or rows or tables labelled Car P and Car Q
	Handles “simple months”	1 or	C	any three correct entries or totals
	Coordinates addition for some months	2 or	CD	any eight correct entries or totals
	Coordinates all aspects	3	CDE	complete table: allow up to three errors
Q7 (b)	One mark for each relevant comparison	1 or 2	F FG	needs evident support from their figures.
Total marks for question		7		
Q8	Starts to find the cost of a car from B or C.	1 or	H	36×286.15 or 48×175 seen or implied
	Correct process for the total cost of B or C	2 or	HJ	$1\ 000 + 36 \times 286.15$ or $500 + 48 \times 175$ seen or implied
	Correct value for Better Cars or Casey’s Autos	3 or	HJK	Better Cars £11301.4(0) or Casey’s Autos £8900
	Comparison of their prices and conclusion	1	L	correct conclusion from their prices
Total marks for question		4		

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Question	Evidence	Mark	Mark Grid	Notes
Q9 (a)	Appropriate graph would be scatter or line graph. Accept bar graph	1 or 2 or 3	M MN MNP	one of: plotting, linear scale, labels two of: plotting, linear scale, labels complete and accurate graph (2mm tolerance for plotting)
Q9 (b)	Selects method to use	1 or	Q	Reads from their graph or uses table and linear midpoint
	Interprets information	2	QR	Answer in range [4000, 4500] or ft (no ft for bar chart)
Total marks for question		5		

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Tables for Question 4

Range

Athlete	max	min	range
Ali	0:29:50	0:27:31	0:02:19
Barry	0:28:35	0:27:40	0:00:55
Caz	0:29:10	0:27:52	0:01:18
David	0:28:44	0:27:59	0:00:45

Rank order

Athlete	Week 1	Week 2	Week 3	Week 4
Ali	1	4	1	4
Barry	2	1	2	1
Caz	4	2	4	3
David	3	3	3	2

Differences

			Totals
+ 41	- 13	+ 1:51 (= 111)	165
- 9	+ 22	+ 33	64
- 17	1:18 (78)	- 24	119
+ 6	+ 35	+ 4	45

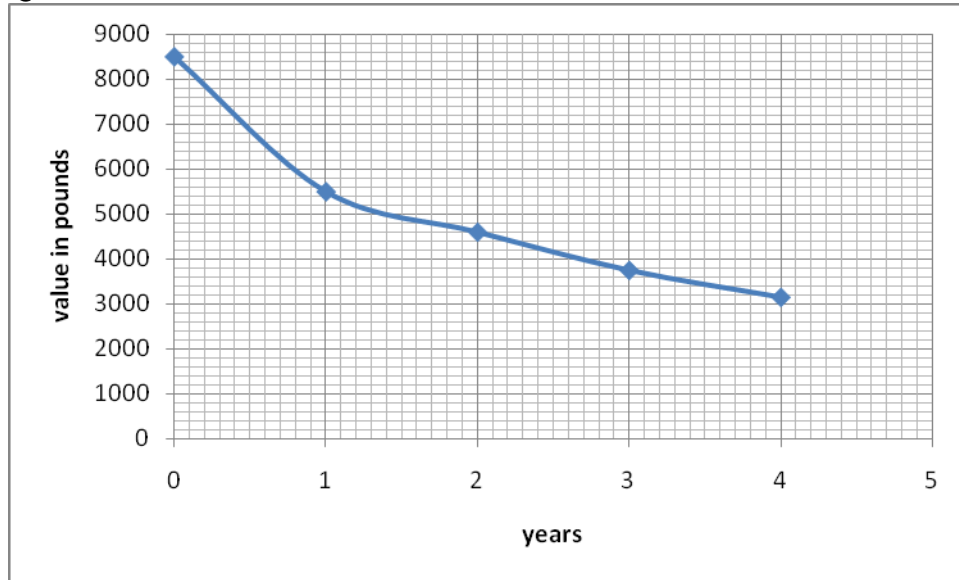
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Question 7

Month	Car P	Car Q
January	70	110
February	70	410
March	320	110
April	570	315
May	70	110
June	195	110
total	1295	1165
for year	1715	1825

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Question 9



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