FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Guidance for Marking Functional Mathematics Papers

Genera

- All candidates must receive the same treatment. You must mark the first candidate in exactly the same way as you 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.
- All the marks on the mark scheme are designed to be awarded. You should always award full marks if deserved, i.e. if the answer matches the mark scheme. You should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.

Applying the Mark Scheme

- The mark scheme has a column for **Process** and a column for **Evidence**. In most questions the majority of marks are awarded for the process the candidate uses to reach an answer. The evidence column shows the most likely examples you will see: if the candidate gives different evidence for the process, you should award the mark(s).
- **Finding 'the answer'**: in written papers, the demand (question) box should always be checked as candidates often write their 'final' answer or decision there. Some questions require the candidate to give a clear statement of the answer or make a decision, in addition to working. These are always clear in the mark scheme.
- If working is **crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.

- If there is a **choice of methods** shown, then mark the working leading to the answer given in the answer box or working box. If there is no definitive answer then marks should be awarded for the 'lowest' scoring method shown.

- A suspected **misread** may still gain process marks.
- It may be appropriate to **ignore subsequent work** (isw) when the candidate's additional work does not change the meaning of their answer. You are less likely to see instances of this in functional mathematics.
- You will often see correct working followed by an incorrect decision, showing that the candidate can calculate but does not understand the demand of the functional question. The mark scheme will make clear how to mark these questions.
- **Transcription** errors occur when the candidate presents a correct answer in working, and writes it incorrectly on the answer line; mark the better answer.
- **Follow through marks** must only be awarded when explicitly allowed in the mark scheme. Where the process uses the candidate's answer from a previous step, this is clearly shown. Speech marks are used to show that previously incorrect numerical work is being followed through, for example **'240'** means **their** 240.

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

- Marks can usually be awarded where **units** are not shown. Where units, including money, are required this will be stated explicitly. For example, 5(m) or (£)256.4 indicates that the units do not have to be stated for the mark to be awarded.
- **Correct money notation** indicates that the answer, in money, must have correct notation to gain the mark. This means that money should be shown as £ or p, with the decimal point correct and 2 decimal places if appropriate.
  e.g. if the question working led to £12÷5,
  Mark as correct: £2.40 240p £2.40p, 2.40£
  Mark as incorrect: £2.4 2.40p £240p 2.4 2.40 240

- Candidates may present their answers or working in many **equivalent** ways. This is denoted **o.e.** in the mark scheme. Repeated addition for multiplication and repeated subtraction for division are common alternative approaches. The mark scheme will specify the minimum required to award these marks.
- A **range** of answers is often allowed :
  - [12.5,105] is the inclusive closed interval
  - (12.5,105) is the exclusive open interval
- **Parts of questions:** because most FS questions are unstructured and open, you should be prepared to award marks for answers seen in later parts of a question, even if not explicit in the expected part.
- Discuss any queries with your Team Leader.
- **Graphs**
  The mark schemes for most graph questions have this structure:

Process		**Evidence**
Appropriate graph or chart – (e.g. bar, stick, line graph)	1 or	1 of: linear scale(s), labels, plotting (2 mm tolerance)
	2 or	2 of: linear scale(s), labels, plotting (2 mm tolerance)
	3	all of: linear scale(s), labels, plotting (2 mm tolerance)

The mark scheme will explain what is appropriate for the data being plotted.
A **linear scale** must be linear **in the range where data is plotted,** whether or not it is broken, whether or not 0 is shown, whether or not the scale is shown as broken. Thus a graph that is 'fit for purpose' in that the **data is displayed clearly and values can be read**, will gain credit.

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

The minimum requirements for **labels** will be given, but you should give credit if a title is given which makes the label obvious. **Plotting** must be correct for the candidate's scale. Award the mark for plotting if you can read the values clearly, even if the scale itself is not linear.

The mark schemes for **Data Collection Sheets** refer to **input opportunities** and to **efficient input opportunities.** When a candidate gives an input opportunity, it is likely to be an empty cell in a table, it may be an instruction to 'circle your choice', or it may require writing in the data in words. These become efficient, for example, if there is a well-structured 2-way table, or the input is a tick or a tally rather than a written list.

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q1	A4	Uses consistent units	1	300 (cm) **OR** 0.8 (m) **OR** 3000 (mm) **and** 800 (mm)
	A4	Complete process to find figures to compare	1 or	80 × 4(=320) oe **or** '0.8' + '0.8' + '0.8' + '0.8'(=3.2) oe **or** '800' × 4(=3200) oe **OR** 3 ÷ 4(=0.75) **or** '300' ÷ 4(=75) **or** '3000' ÷ 4(=750) **OR** '300' ÷ 80(=3.75) **or** '3000' ÷ '800'(=3.75) oe
	I6	Correct decision based on correct figures	2	No **AND** 320 (cm) **or** 3.2 (m) **or** 3200 (mm) **OR** No **AND** 20 (cm) short **OR** No **AND** 0.75 (m) **or** 75 (cm) **or** 750 (mm) **OR** No **AND** 3.75 (shelves)
		Total marks for question	**3**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q2	R1	Begins to complete order form	1 or	A=5 **and** B = 27.5(0) ignore any other cells **OR** G=2 **and** H = 25(.00) ignore any other cells **OR** A= 5 **and** G=2 **and** C, D ,E, F =0 or blank **OR** A ≥ 5 **and** G ≥ 2 **and** B=5.5A **and** H=12.5G **and** C, D, E, F = 0 or blank **OR** B = 27.5(0) **and** H = 25(.00) **and** A = 5 or blank only **and** B = 2 or blank only **and** C, D ,E, F = 0 or blank Ignore I for everything above **OR** A=5 **and** B = 27.5(0) **AND** G=2 **and** H = 25(.00) **AND** I= 52.50 [money format for I] **AND** Ignore C, D, E, F
	A4	Continues to complete order form	2 or	A=5 **and** B = 27.5(0) **AND** G=2 **and** H = 25(.00) **AND** C, D ,E, F =0 or blank Ignore I for this method **OR** B = 27.5(0) **and** H = 25(.00) **and** A = 5 or blank only **and** B = 2 or blank only **and** C, D ,E, F = 0 or blank **AND** I = 52.50 only **OR** A=5 **and** B = 27.5(0) **AND** G=2 **and** H = 25(.00) **AND** I= 52.50 [money format for I] **AND** accept no more than one other cell filled in E.g. C or D or E or F
	I6	Correct total cost	3	A=5 **and** B = 27.5(0) **AND** G=2 **and** H = 25(.00) **AND** I= 52.50 [money format for I] **AND** C, D ,E, F = 0 or blank
Total marks for question			**3**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q3(a)	I6	Begins to draw graph	1 or	One of: linear scale, suitable labels, plotting
	R1	Improves graph	2 or	Two of: linear scale, suitable labels, plotting
	A4	Fully correct graph	3	All of: linear scale, suitable labels, plotting minimum horizontal labels 1980, 1990, 2000, 2010 minimum vertical labels Population or People (may be seen in title) plotting tolerance ± 1 small square,
Q3(b)	I6	Correct comment selected	1	The population in Chester decreased then increased **OR** Selects statement consistent with their graph
Total marks for question			**4**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q4a	R2	Starts to use formula	1 or	20 × 2 (=40) **OR** 68 – 30 (=38)
	R1	Fully correct process	2 or	20 × 2 + 30 (=70) **OR** 68 – 30 ÷2 (=19)
	A4	Correct answer	3 or	70 **OR** 19
	I6	Correct difference with units	1	'2' (degrees) F(ahrenheit) **OR** '1' (degrees) C(elsius) **or (**Centigrade)
Q4b	A5	Valid check	1	Partial or full reverse calculation e.g. '70' – '2' = 68 **OR** '19' + '1' = 20 **OR** 19 × 2(=38) (38 must been seen in original calculation) **OR** 19 × 2 + 30 = 68 **OR** 70 – 30 ÷ 2 = 20
		Total marks for question	**5**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q5	R2	Starts process to find mean or median	1 or	59 + 57 + 53 + 54 + 62(=285) **OR** 53, 54, 57, 59, 62 **OR** 5 × 58(=290)
	A4	Full process to find figures to compare	2 or	'285' ÷5 (=57) **OR** 59 + 57 + 53 + 54 + 62(=285) **and** 5 × 58(=290) **OR** Identifies 57
	I6	Correct decision and correct figures	3	Carl **and** 57 (seconds) **OR** Carl **and** 285 **and** 290
Total marks for question			**3**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q6	R2	Considers constraints	1 or	Resized square or rectangle with two of: • at least 2 squares from the decking • at least 4 squares from the house • not overlapping the vegetable patch • 4 squares by 4 squares
	I6	Improves solution	2 or	A 4 by 4 square with two of: • at least 2 squares from the decking • at least 4 squares from the house • not overlapping the vegetable patch
	I6	Correct solution	3	A 4 by 4 square with all of: • at least 2 squares from the decking • at least 4 squares from the house • not overlapping the vegetable patch
Total marks for question			**3**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q7(a)	R3	Begins to work with ratio	1 or	20 ÷ (1 + 3) (=5) **OR** 1:3 **and** 2:6
	A4	Full process to find number of each fish	2 or	'5' × 3 (=15) **OR** 1:3 **and** 2:6 **and** 3:9 **and** 4:12 **and** 5:15 **OR** 1:3 **and** 5:15
	I6	Communicates solution	3	5 m(ale) **and** 15 f(emale)
Q7(b)	A5	Valid check	1	Reverse calculation e.g. 15 + 5 (=20) **OR** 15 ÷ 3 (=5) **or** 15 ÷ 5 (=3) **OR** 5 × (1 + 3) (=20) **or** 5 × 4 =(20)
Total marks for question			**4**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q8(a)	R2	Reads the table correctly	1	550 (grams)
	R3	Process to find grams needed per week or convert to grams	1 or	'550' × 7 (=3850) **OR** 18 × 1000 (=18000)
	A4	Process to find total grams needed or grams available per week or days available	2	'550' × 7 × 4 (=15400) **OR** '18000' ÷ 4 (=4500) **OR** '18000' ÷ '550' (=32.7..)
	A4	Process to convert to kilograms or find grams available per day or number of days required	1 or	'15400' ÷ 1000(=15.4) **OR** 18000 ÷ 7 ÷ 4 (=642.85..) **OR** 4 × 7(=28)
	I6	Correct conclusion and correct figures	2	Yes **AND** 15.4 (kg needed) **OR** Yes **AND** 15400 **and** 18000 **OR** Yes **AND** [642, 643] (g per day available) **and** 550 (g required per day) **OR** Yes **AND** 32.7.. (days available) **and** 28 (days required) **OR** Yes **AND** 2.6 (kg) oe (left over) NB May work in kg Accept 'No' with correct figures if candidate suggests there will be 'too much' or some 'left over'
Q8(b)	A5	Valid check	1	Reverse partial or full calculation or alternative method e.g. '15.4' × 1000 = 15400(g) **OR** '642.85..' × 4 × 7 ÷ 1000 = 18(kg)
		Total marks for question	**6**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q9	R1	Process to find cost or saving on 1 item	1 or	200 + 150(=350) **OR** 200 × 20 ÷100 (=40) oe **or** 150 × 20 ÷100 (=30) oe **OR** 200 × 80 ÷100 (=160) oe **or** 150 × 80 ÷100 (=120) oe
	A4	Process to find full discount	2 or	'350' × 20 ÷ 100 (=70) oe **OR** '40' + '30'(=70)
	I6	Correct answer	3	(£)70
Total marks for question			**3**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q10	R1	Begins process to choose within constraints	1 or	Chooses one activity from each session. At least **one** total is correct but does not meet constraints. **OR** Chooses more than one activity from each session (e.g. two from morning and one from evening) and **both** totals are present and correct. **OR** Chooses one of the correct combinations with totals blank or incorrect
	A5	Checks to improve choice	2 or	Chooses one activity from each session **AND** both totals correct but **one** does not meet the constraints **or** both totals meet the constraints but **one** is incorrectly added
	I6	Finds a correct solution	3	Chooses one activity from each session **and** both totals correct and meets constraints. **Solutions are:** Archery, Zip wire, Map skills =£75 Kayaking, Climbing, Map skills = £80 Kayaking, Zip wire, Tyre challenge = £75 Paintballing, Zip wire, Map skills = £80
Total marks for question			**3**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q11	R2	Uses consistent units	1	400 (cm) **or** 200 (cm) **or** 0.4 (m)
	R3	Fits tiles in 1 dimension or begins to work with area	1 or	'400' ÷ 40 (=10) **or** '200' ÷ 40 (=5) **OR** 4 ÷ '0.4'(=10) oe **or** 2 ÷ '0.4'(=5) oe **OR** '400' × '200' (=80000) **or** 40 × 40 (= 1600) **OR** 4 × 2 (=8) **or** '0.4' × '0.4'(=0.16)
	I6	Fits tiles in both dimensions or finds both areas	2 or	'400' ÷ 40 (=10) **and** '200' ÷ 40 (=5) **OR** 4 ÷ '0.4'(=10) **and** 2 ÷ '0.4'(=5) oe **OR** '400' × '200' (=80000) **and** 40 × 40 (= 1600) **OR** 4 × 2 (=8) **and '**0.4' × '0.4' (=0.16) oe
	A4	Full process to find number of tiles needed.	3 or	'10' × '5'(=50) **OR** '8' ÷ '0.16'(=50) **or** '80000' ÷ '1600'(=50)
	I6	Finds number of tiles	4	50 (tiles)
Total marks for question			**5**	

FUNCTIONAL SKILLS ONSCREEN (MATHEMATICS)
MARK SCHEME – LEVEL 1 – PRACTICE SET 2

Question	Skills Standard	Process	Mark	Evidence
Q12(a)	R1	Begins to find number of calories	1	90 × 2 (=180) **OR** 80 × 3 (=240)
	A4	Process to work with fractions	1	140 × 1/2 (=70) oe
	A4	Process to find total calories	1 or	'180' + '240' + '70' (=490)
	I6	Correct conclusion with supporting figures	2	Yes **and** 490 (calories) Award all 4 marks if yes and 490 (calories) seen
Q12(b)	R2	Process to calculate start time	1 or	6:30 – 0:40 (=5:50) oe
	I6	Correct start time	2	5:50 (pm)
Total marks for question			**6**	