National
Qualifications
SPECIMEN ONLY

SQ26/N5/01

Lifeskills Mathematics
Paper 1

Marking Instructions

These Marking Instructions have been provided to show how SQA would mark this Specimen Question Paper.

SQA ©

Part One: General Marking Principles for National 5 Lifeskills Mathematics

This information is provided to help you understand the general principles you must apply when marking candidate responses to questions in this Paper. These principles must be read in conjunction with the specific Marking Instructions for each question. The marking schemes are written to assist in determining the 'minimal acceptable answer' rather than listing every possible correct and incorrect answer.

(a) Marks for each candidate response must <u>always</u> be assigned in line with these General Marking Principles and the specific Marking Instructions for the relevant question.

(b) Marking should always be positive, ie marks should be awarded for what is correct and not deducted for errors or omissions.

(c) Credit must be assigned in accordance with the specific assessment guidelines.

(d) Candidates may use any mathematically correct method to answer questions except in cases where a particular method is specified or excluded.

(e) Working subsequent to an error must be followed through, with possible credit for the subsequent working, provided that the level of difficulty involved is approximately similar. Where, subsequent to an error, the working is easier, candidates lose the opportunity to gain credit.

(f) Where transcription errors occur, candidates would normally lose the opportunity to gain a processing mark.

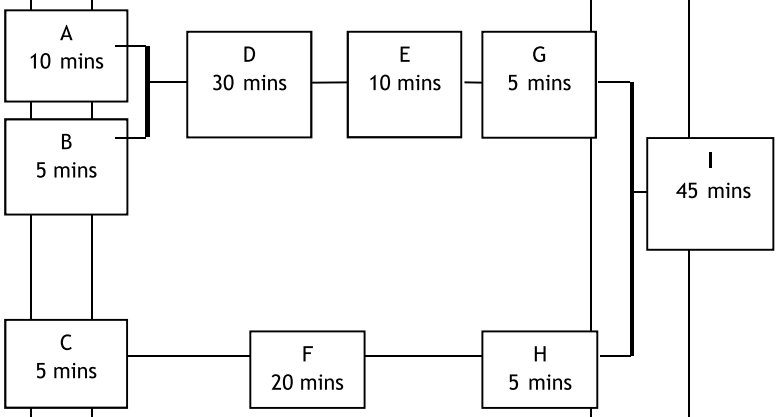
(g) Scored out or erased working which has not been replaced should be marked where still legible. However, if the scored out or erased working has been replaced, only the work which has not been scored out should be judged.

(h) Unless specifically mentioned in the specific assessment guidelines, do not penalise:

- Working subsequent to a correct answer
- Correct working in the wrong part of a question
- Legitimate variations in solutions
- Bad form
- Repeated error within a question

Part Two: Specific Marking Instructions for each question

Question			Marking scheme Give one mark for each •	Max mark	Illustrations of evidence for awarding a mark at each •
1			**Ans: Elaine has** $\frac{35}{56} > \frac{32}{56}$ • [1] Process: find common denominator • [2] Communication: state conclusion with reason	2	• [1] 56 (or equivalent) • [2] Elaine has $\frac{35}{56} > \frac{32}{56}$
2	a		**Ans: 4 hours** • [1] Process: calculate time across midnight	1	• [1] 4 hours
2	b		**Ans: 63 (mph)** • [1] Strategy: substitute into correct formula • [2] Process: calculate speed	2	• [1] $s = \frac{252}{4}$ • [2] 63 (mph)
3			**Ans: £35·50** • [1] Strategy: know to find 15% • [2] Process: calculate net amount of money raised	2	• [1] 70 ÷ 100 × 15 accept any alternative method • [2] 70 – 10·50 – 24 = £35·50

4	a		**Ans: task letters and times inserted in chart** • [1] Strategy: start to allocate tasks • [2] Strategy: complete allocation of tasks and times 	2	• [1] task letters in correct boxes • [2] times in correct boxes
4	b		**Ans: 100 mins or 1 hr 40 mins** • [1] Process: calculate total time	1	• [1] for longest time in each section: 10 + 30 + 10 + 5 + 45 = 100 mins or 1 hr 40 min
5	a		**Ans: All points plotted correctly** • [1] Strategy: start to plot points • [2] Process: plot all 10 points	2	• [1] 3 points plotted correctly • [2] All 10 points plotted correctly
5	b		**Ans: Best fitting line drawn** • [1] Strategy: know to draw line of best fit	1	• [1] Accept line with positive gradient which has minimum 3 points above and 3 points below the drawn line
5	c		**Ans: Rowing with reason** • [1] Strategy: know to use line of best fit • [2] Communication: state answer with justification	2	• [1] Plotting of point on second line of best fit or equivalent • [2] Rowing because for example, step line is above 120 at 87 bpm

6			**Ans: 34 euros or 34 (·40) euros** • [1] Strategy: identify highest and lowest values • [2] Strategy: know to find number of euros • [3] Strategy: know to find difference • [4] Process: carry out calculations correctly	**4**	• [1] 1·2637 *and* 1·1949 • [2] 1·2637 × 500 *and* 1·1949 × 500 • [3] 631·85 – 597·45 • [4] 34 euros or 34 (·40) euros
7			**Ans: 3 : 5 or equivalent** • [1] Strategy: know to work out the area of coloured glass • [2] Process: calculate: area of square calculate area of triangle 1 calculate area of triangle 2 calculate area of triangle 3 • [3] Process: subtract areas of three right angle triangles from area of square • [4] Communication: calculate ratio	**4**	• [1] know that area of coloured glass is area of whole square minus areas of 3 right angled triangles • [2] 8 × 8 = 64 (cm^2) ½ × 4 × 8 = 16 (cm^2) ½ × 4 × 4 = 8 (cm^2) ½ × 4 × 8 = 16 (cm^2) • [3] 64 − 40 = 24 (cm^2) • [4] 3 : 5 or equivalent
8	**a**		**Ans: £3234 per year** • [1] Process: find taxable pay • [2] Process: find tax paid	**2**	• [1] £16 170 • [2] £3234 per year
8	**b**	**i**	**Ans: £535·58** • [1] Process: find monthly tax paid • [2] Process: find total monthly deductions	**2**	• [1] £269·50 • [2] 269·50 + 166·08 + 100 = £535·58

8	**b**	**ii**	**Ans: £1489·42** • [1] Process: find monthly take home pay	**1**	 • [1] £1489·42
9	**a**		**Ans: Yes, the ramp will conform to recommendation 1 because its gradient of 1 in 16 is less steep than 1 in 12.** • [1] Process: Calculate gradient • [2] Communication: Interpret gradient of ramp	**2**	 • [1] 0·5/8 × 2/2 = 1/16 • [2] Yes, 1 in 16 is less steep than 1 in 12
9	**b**		**Ans: Yes, rise is less than 760 mm** • [1] Communication: state conclusion	**1**	 • [1] Yes, 500 mm < 760 mm or equivalent
10	**a**		**Ans: appropriate box plot drawn** • [1] Strategy: know information required to construct box plot • [2] Process: State 5 figure summary for calm conditions • [3] Communication: box plot drawn correctly	**3**	 • [1] begins to list five figure summary • [2] Calm conditions L-67, Q1-70, Q2-73.5, Q3-76, H-78 • [3] Box plot drawn to an approximate scale or to scale on square-ruled paper

10	**b**		• [1] Communication: valid comparison	**1**	• [1] Any valid comparison for example: • Scores tend to be higher in windy conditions • There is less spread of data in calm conditions • Scores tend to be lower in calm conditions • There is a greater spread of scores in windy conditions • Scores tend to be more consistent in calm conditions

TOTAL MARKS FOR PAPER 1-35

[END OF SPECIMEN MARKING INSTRUCTIONS]