LEVEL 1 FUNCTIONAL SKILLS QUALIFICATION IN MATHEMATICS

PRACTICE ASSESSMENT 3 (FSM101P)

MARK SCHEME

Section A	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 1	Calculate in correct order	1	**1 mark**: 103 shown		US	7
Question 2	Calculate square of number	1	**1 mark**: 144 shown		US	6
Question 3	Multiply by 1000	1	**1 mark**: 5070 shown		US	3a
Question 4	Select correct net	1	**1 mark**: Net D selected		US	25b
Question 5	Correct answer to division	1	**1 mark**: 9		US	4
Question 6	Correct estimate	1	**1 mark**: (23 + 14) = 37 OR (25 + 15) = 40	Do not accept decimal answer.	US	15
Question 7	Correct number of tickets ending with 5	2	**1 mark**: 10 tickets	May be implied if 1/10, 10/100 or 10% seen, or full list of numbers ending with 5	PS	31
	Correct probability		**1 mark:** Correct probability shown as a fraction, ie 1/10	Do not award for 10/100.	PS	31
Question 8	Method to calculate mean	2	**1 mark:** Valid method to calculate mean, eg 30+43+48+35=156 AND 156 ÷ 4	May be implied if correct answer (39) seen.	PS	29a
	Correct mean		**1 mark**: Correct mean shown, ie 39		PS	29a

Question 9	Correctly completed pie chart.	3	**3 marks:** Correctly completed pie chart, ie 3 segments Car 4 segments Bus 2 segments Cycle 3 segments Walk	Award 2 marks for any 2 correctly completed modes of travel. Award 1 mark for any 1 correct completed mode of travel.	PS	27b
Question 10	Method to find no. of degrees	2	**1 mark:** method to find no. of degrees eg 360 ÷ 12 x 2 OR Other valid method		PS	24b
	Correct number of degrees		**1 mark:** Correct number of degrees shown, ie 60º	Units not required	PS	24b

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Section B	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content (SoS)
Question 11	Correct order of numbers largest to smallest	2	**2 marks**: 1 ½ 1 ¼ 9/10 ¾ 2/3	Award 2 marks for highest to lowest or lowest to highest Award 1 mark if one error.	US	8b
Question 12	Correct written number	1	**1 mark**: 658209 shown		US	1a
Question 13	Valid method used	2	**1 mark**: Valid method using given ratio eg 53 ÷ 8 = 6.625 8 x 7 = 56	.	PS	17a
	Correctly rounded number of adults given		**1 mark**: 7 shown	Do not allow FT for incorrect method	PS	17a
Question 14	Calculate total cost of tickets	4	**1 mark**: Correct total cost, ie (21.95 x 53) =1163.35 shown	Award if (£)988.85 seen	PS	19
	Calculate 15%		**1 mark**: Valid method calculate 15% eg 1163.35 x 15 ÷ 100 1163.35 x 0.15 21.95 x 15 ÷ 100 21.95 x 0.15	Award if (£)174.50 seen Allow FT for incorrect cost of tickets Award if 18.65 or 18.66 seen Award if (£)988.84 or 988.85 seen Award if 988.45 or 988.98 seen	PS	19
	Calculate discounted cost of tickets		**1 mark**: Correct answer, ie (£)988.85 or 988.84	Money notation not required. Award for 988.45 or 988.98	PS	19
	Correct rounding		**1 mark**: Rounding to nearest pound ie £989	Allow FT for incorrect cost Money notation not required.	PS	12a

Question 15	Correctly completed ride column	2	**1 mark**: Ride column correctly completed, ie Log Flume ⊦⊦⊦⊦ ⏐ Roller Coaster ⏐⏐ Pirate Ship ⏐⏐⏐⏐ For online assessment – different types of ride correctly identified	Accept in any order	PS	27a
	Correctly completed total column		**1 mark**: Total column correctly completed, ie Log Flume 6 Pirate Ship 4 Roller Coaster 2 Total 12	Accept in any order	PS	27a
Question 16	Add up time taken	4	**1 mark**: Valid method used for adding up time taken, eg 3h + 1h + 1 hr + 30 m + 30m + 30m + 45m + 40m (= 7h 55m).	May be implied if 7h 55m seen. Award if 475 minutes seen	PS	20e
	Correct time shown		**1 mark**: Correct time shown, ie 7h 55 minutes 475 minutes	Units not required. Do not allow FT for only 1 journey time added.	PS	20e
	Valid time to leave given		**1 mark**: Valid leaving time given Eg 9.05	Allow FT from their calculated time.	PS	20e
	Valid explanation given		**1 mark:** Valid explanation given, eg They should leave at 9.05 as it will take 7h 55m They should leave at 9 o clock as it is the nearest hour They should leave at 8.45 to allow extra time for traffic or queuing to get in	Allow any valid explanation supported by their calculations Allow FT for valid explanation supported by incorrect calculations	PS	20e
Question 17	Completed design showing symmetrical pattern	2	**2 marks**: Grid fully completed showing at least 1 line of symmetry	Award 1 mark if gaps left in grid but pattern shows at least 1 line of symmetry	US	24a
Question 18	Correct number of lines of symmetry	1	**1 mark:** Stated the correct number of lines of symmetry included in their pattern.	Award for rotational symmetry	US	24a

Question 19	Method to add all weights	2	**1 mark**: Valid method to add weights, eg 20 + 5 + 5 + 2.5 + 2.5 + 1.25 + 1.25 = 37.5k g	Units not required Award if 20 omitted (17.5)	PS	11a
			1 mark: Correct answer given 37.5 kg	Units not required	PS	11a
Question 20	Method to find fraction of 1820	5	**1 mark:** Valid method to find 1/3 or ¼ or 5/12 or 7/12 of 1820, eg 1820 ÷ 3 = 606.66 1820 x 0.333 = 606.06 1820 ÷ 4 = 455 1820 x 0.25 = 455	Accept any valid method. May be implied if 455 OR 606 or 607 seen.	PS	9
	Correct number of calories for fat and carbs		**1 mark:** Correct calories given for fat AND carbs 455 AND 606	Accept decimal places in answer for fat calories Accept 607	PS	9
	Find number of calories from protein		**1 mark:** Correct number of calories from protein given, eg (455 + 606 = 1061) (1820 – 1061) = 758	Accept decimal places Method not required for mark Allow FT for incorrect carb/fat calories Accept 759	PS	9
	Find 2/5 of 1820		**1 mark**: Find 2/5 of 1820 eg (1820 ÷ 5 = 364 and 364 x 2 =) 728 (1820 x 0.4 =) 728	Accept decimal places	PS	9
	Correct conclusion		**1 mark:** Correct conclusion, eg Yes (it will be more than 2/5)	Do not award if no supporting calculations. Allow FT for incorrect calculations if conclusion support answer.	PS	9
Question 21	Find total amount of weight lost	2	**2 marks:** Correct amount of weight change, eg 2 + 1.5 + 0.5 + 2 + 2 = 8 AND 8 – 0.5 – 0.5 - 1 = 6 OR 2 + 1.5 – 0.5 -1 + 0.5 + 2 – 0.5 +2 = 6 (lbs)	Award 1 mark if one error found. Award for -6	PS	2
Question 22	Evidence of conversion	3	**1 mark**: 3.5 x 1000 = 3500 (m) OR Other valid method		PS	20a

			1 mark: method to find number of lengths eg 3500 ÷ 25 = 140 AND 140 ÷ 3 = 46.67		PS	20a
			1 mark: correct number of lengths given eg 46 or 47 on each visit 46, 46, 47 OR Other numbers that add up to 140 lengths	Do not accept decimals	PS	20a
Question 23	Value shown as fraction in its simplest form	2	1 mark: 3/5 shown	Award if written in words, eg three over five or three fifths	US	16b
	Value shown as a percentage		1 mark: 60%	Do not award if no percent sign shown	US	16b
Question 24	Round to 2 decimal places	1	1 mark: Correct rounded number, ie, 326.76		US	12b
Question 25	Valid method to find percentage	4	1 mark: Method to find 15% of 149.99, eg 149.99 x 15 ÷ 100 (= 22.4985) 149.99 x 0.15 (= 22.4985)	Accept any valid method that gets to correct answer May be implied.	PS	18
	Correct interest		1 mark: Correct amount of interest, ie £22.50	Accept 22.49 or 22.4985	PS	18
	Correct total price		1 mark: Correct total, ie (149.99 + 22.50) = 172.49	Accept 172.48 or 172.4885 Allow FT for incorrect percentage May be implied.	PS	11a
	Correct monthly price		1 mark: Correct monthly payment, ie (172.49 ÷ 12) = (£)14.37	Only award for 2 decimal places Accept (£)14.38 Allow FT for incorrect percentage	PS	18
Question 26	Method to find volume of fish tank	4	1 mark: Correct method to find volume, eg 54.5 x 43 x 86 0.545 x 0.43 x 0.86	Accept any valid method	PS	23
	Correct volume		1 mark: Correct volume, eg	Accept $0.2m^3$	PS	23

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			201541 cm³ 0.201541 m³	Units not required		
	Correct conversion to litres		**1 mark:** 201.541 litres	Units not required Allow FT for incorrect volume	PS	20c
	Correct number of hours		**1 mark:** Correct number of hours, ie (201.541 ÷ 10) = 20.1541 20 hours 9 minutes	Accept rounded answer to 20 hours Allow FT for incorrect volume	PS	23
Question 27	Method to find area	4	**1 mark**: Valid method to find area, eg 86 x 43	Accept any valid method	PS	22a
	Correct area		**1 mark**: Correct area given, ie 3698 (cm²)	Units not required	PS	22a
	Use of formula		**1 mark:** Correct substitution into formula, ie 3698 ÷ 75 x 1.89		PS	5
	Correct total cost		**1 mark**: Correct total cost, ie £93.18 or £93.19 Allow £92.61	Money notation not required. Do not accept if more than two decimal places given.	PS	5

Annotation notes:

Annotation	Meaning
US	Underpinning skills
PS	Problem solving skills
FT	Follow through
(…)	Information that is not required for the mark point

Paper number	FSM101P									
Task number	Section A		Section B						Total	%
Problem Solving (PS) maximum marks **Underpinning skills (US) maximum marks**	9 6		12 3		12 3		12 3		**Total no of sub-elements mapped = 29**	
Tick the boxes to confirm that there is a 4 – 7 mark question reflecting no more than a one-step process or no more than one connected-step process.	✓		✓		✓					
Level 1 Subject Content	PS	US	PS	US	PS	US	PS	US		
1a. Read and write large numbers (up to one million)				1 (Q12)					1	
1b. Order and compare large numbers (up to one million)										
2. Use both positive and negative numbers					2 (Q21)				2	
3a. Multiply whole numbers and decimals by 10, 100, 1000		1 (Q3)							1	
3b. Divide whole numbers and decimals by 10, 100, 1000										
4. Use multiplication facts and make connections with division facts		1 (Q5)							1	
5. Use simple formulae expressed in words for one or two-step operations							2 (Q27)		2	
6. Calculate the squares of one-digit and two-digit numbers		1 (Q2)							1	
7. Follow the order of precedence of operators		1 (Q1)							1	
8a. Read and write common fractions and mixed numbers										
8b. Order and compare common fractions and mixed numbers				2 (Q11)					2	
9. Find fractions of whole number quantities or measurements					5 (Q20)				5	
10a. Read and write decimals up to three decimal places										
10b. Order and compare decimals up to three decimal places										
11a. Add decimals with decimals up to two decimal places					2 (Q19)		1 (Q25)		3	
11b. Subtract decimals with decimals up to two decimal places										

Skill									Total	%
11c. Multiply decimals with decimals up to two decimal places										
11d. Divide decimals with decimals up to two decimal places										
12a. Approximate by rounding to a whole number			1 (Q14)						1	
12b. Approximate by rounding to one or two decimal places								1 (Q24)	1	
13a. Read and write percentages in whole numbers										
13b. Order and compare percentages in whole numbers										
14. Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof										
15. Estimate answers to calculations using fractions and decimals	1 (Q6)								1	
16a. Recognise equivalences between common fractions, percentages and decimals										
16b. Calculate equivalences between common fractions, percentages and decimals								2 (Q23)	2	
17a. Work with simple ratio			2 (Q13)						2	
17b. Work with direct proportions										
Total: Number and number system									**26**	**43.3**
18. Calculate simple interest in multiples of 5% on amounts of money							3 (Q25)		3	
19. Calculate discounts in multiples of 5% on amounts of money			3 (Q14)						3	
20a. Convert between units of length in the same system					3 (Q22)				3	
20b. Convert between units of weight in the same system										
20c. Convert between units of capacity in the same system							1 (Q26)		1	
20d. Convert between units of money in the same system										
20e. Convert between units of time in the same system			4 (Q16)						4	
21. Recognise and make use of simple scales on maps and drawings										
22a. Calculate the area of simple shapes including those that are made up of a combination of rectangles							2 (Q27)		2	
22b. Calculate the perimeter of simple shapes including those that are made up of a combination of rectangles										

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Skill	C1	C2	C3	C4	C5	C6	C7	C8	Total Mark	Total %
23. Calculate the volumes of cubes and cuboids							3 (Q26)		3	
24a. Draw 2-D shapes and demonstrate an understanding of line symmetry						2 (Q17) 1 (Q18)			3	
24b. Understand the relative size of angles	2 (Q10)								2	
25a. Interpret plans and elevations of simple 3-D shapes										
25b. Interpret nets of simple 3-D shapes		1 (Q4)							1	
26a. Use angles when describing position and direction										
26b. Measure angles in degrees										
Total: Measure, shape and space									**25**	**41.5**
27a. Represent discrete data in tables and diagrams			2 (Q15)						2	
27b. Represent discrete data in charts i) pie charts, ii) bar charts and iii) line graphs	3 (Q9)								3	
28a. Group discrete data										
28b. Represent grouped data graphically										
29a. Find the mean of a set of quantities	2 (Q8)								2	
29b. Find the range of a set of quantities										
30. Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events										
31. Use equally likely outcomes to find the probabilities of simple events and express them as fractions	2 (Q7)								2	
Total: Handling data									**9**	**15**
Total Mark PS/US Total %	9	6	12	3	12	3	12	3	60	100

Problem solving and decision-making requirements. Indicate the question numbers where this is required	Task 1		Task 2		Task 3		Task 4		
Read, understand, and use mathematical information and mathematical terms	7, 8 9, 10		13, 14, 15, 16		19, 20, 21, 22		25, 26, 27		
Address individual problems based on a combination of the knowledge and/or skills from the mathematical content areas (number and the number system; measures, shape and space; information and data). Some problems draw upon a combination of any two of the mathematical content areas and require learners to make connections between those content areas.			14				25, 26, 27		
Use mathematical information and terms in a problem	7, 8 9, 10		13, 14, 15, 16		19, 20, 21, 22		25, 26, 27		
Use knowledge and understanding to a required level of accuracy	7, 8 9, 10		13, 14, 15, 16		19, 20, 21, 22		25, 26, 27		
Identify suitable operations and calculations to generate results	7, 8 9, 10		13, 14, 15, 16		19, 20, 21, 22		25, 26, 27		
Analyse and interpret answers in the context of the original problem	10		13		19, 20, 21, 22		25, 26, 27		
Check the sense and reasonableness of answers			16				26, 27		
Present results with appropriate explanation and interpretation demonstrating simple reasoning to support the process and show consistency with the evidence presented.	9				20				

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