LEVEL 1 FUNCTIONAL SKILLS QUALIFICATION IN MATHEMATICS

PRACTICE ASSESSMENT 1 (FSM107P)

MARK SCHEME

Task 1 NC	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 1	Recognise relationships between multiplication and division	1	**1 mark**: Correct answer, ie 20 ÷ 2		US	4
Question 2	Convert pence to pounds and pence	1	**1 mark**: Correct answer, ie £13.40	Must have correct money notation	US	20d
Question 3	Order and compare numbers	1	**1 mark**: Correct order, ie 232149 322419 322491 332491	Accept largest to smallest or smallest to largest	US	1
Question 4	Correct division by 1000	1	**1 mark**: Correct answer, ie 0.2564		US	3b
Question 5	Identifies correct fraction	2	**1 mark**: Correct fraction identified, ie 1/5		US	16a
	Identifies correct decimal		**1 mark:** Correct decimal identified, ie 0.2		US	16a

Question 6	Correct calculation of change Round to the nearest £	2	**1 mark**: Correctly calculated change, eg 14.99 + 6.99 = 21.98 AND 30-21.98 = 8.02 OR 30 – 14.99 – 6.99 = 8.02 Any other valid method	Award if 8.02 seen	PS	11b
			1 mark: Correct rounding, ie £8.00	Allow FT for incorrect change Money notation not required Award if values rounded before calculation	PS	12a
Question 7	Method to find number of cheesecakes or amount of digestives needed for 4 cheesecakes Correct rounding Calculate the number of servings Correct decision and reason given	4	**1 mark**: Valid method to calculate number of cheesecakes, eg 750 ÷ 240 (= 3.125) Any other valid method	Units not required Award if 3 seen Award if 240 x 4 = (960)	PS	17b
			1 mark: Correct rounded number, ie 3	Award if 960 seen (amount of digestive needed for 4 cheesecakes)	PS	17b
			1 mark: Correct number of servings, eg (3 x 4) = 12	Units not required Do not allow 3.125 x 4=12.5 Award if 960 seen	PS	17b
			1 mark: Correct decision and reason, eg No, he can only make 3 cheesecakes which is enough for 12 people OR No he only has 80g of biscuits left which is not enough for the 4th cheesecake OR No, he needs 960g to make 16 servings	Allow any valid reason	PS	17b
Question 8	Find total number of visitors Find total excluding Tuesday Correct visitor number for Tuesday	3	**1 mark:** Correct total found, ie (50 x 7) = 350		PS	29a
			1 mark: Correct total excluding Tuesday, ie 32 + 46 + 48 + 55 + 61 + 72 = 314 OR Any other valid method	Award if one error in calculation	PS	29a
			1 mark: Correct number on Tuesday, ie (350 – 314) = 36		PS	29a

Task 2	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content (SoS)
Question 9	Correct net identified	1	**1 mark**: Correct answer, ie A		US	25b
Question 10	Triangle drawn	2	**1 mark:** Symmetrical triangle drawn		US	24a
	Line of symmetry shown		**1 mark:** Line of symmetry drawn in appropriate place.		US	24a
Question 11	Correct number of cats found	3	**1 mark**: Correct fraction of cats shown, ie (6160 x 0.25) = 1540 (6160 ÷ 4) =1540 Any other valid method	Award if 1540 or 1232 seen Award if 2772 seen	PS	16b
	Correct number of dogs found		**1 mark:** Correct number of dogs, ie (6160 ÷ 100 x 20) = 1232 (6160 x 0.2) = 1232 (6160 ÷ 5) = 1232 Any other valid method	Award if 2772 seen	PS	16b
	Correct number of other animals found		**1 mark**: Correct number of other animals shown, ie (6160 – (1540 + 1232)) = 3388	Full marks can be awarded for the correct answer seen.	PS	16b
Question 12	Evidence of using ratio	5	**1 mark**: Evidence of using ratio eg 3 + 2 = 5 2520 ÷ 5 Any other method	Award if 1512 or 1008 seen	PS	17a
	Method to calculate number of dogs or cats		**1 mark:** Valid method to find number of dogs or cats, eg 2520 ÷ 5 x 3 (= 1512) OR 2520 ÷ 5 x 2 (= 1008) OR Any other method	Award if 1512 or 1008 seen	PS	17a
	Correct number of dogs found		**1 mark:** Correct number of dogs found, ie 1512		PS	17a
	Method to find percentage		**1 mark**: Valid method to find percentage, eg 1512 x 0.15 = 226.8 **AND** 1512 + 226.8 1512 ÷ 100 x 15 **AND** 1512 + 226.8 1.15 x 1512 = (1738.8) Any other valid method	Accept rounded number of dogs Award if 1738 OR 1739 seen	PS	14

	Correct total number of dogs this year		**1 mark**: Correct number of dogs this year, ie 1738 OR 1739		PS	14
Question 13	Convert using scale	4	**1 mark**: Correct method of conversion using scale ie 4 ÷ 2 = (2) OR 5 ÷ 2 = (2.5) OR 8 ÷ 2 = (4) OR 3 ÷ 2 = (1.5)	May be implied by 2, 2.5, 4 or 1.5 seen	PS	21
	Calculate the area		**1 mark**: Correctly calculated area, ie (2 x 2.5) + (4 x 1.5) = 11 Any other valid method	FT from their scale. Award if drawing measurements used, ie 44(cm^2)	PS	22a
	Find number of rabbits		**1 mark**: Correct number of rabbits found, ie (11 ÷ 2.5) = 4.4	Allow FT for incorrect area	PS	22a
	Correctly rounded number of rabbits		**1 mark:** Correct answer 4 (rabbits)	Do not allow FT Do not accept decimal answer	PS	22a

Task 3	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 14	Order fractions	1	**1 mark:** Correct order shown, ie $\frac{1}{4}$ $\frac{1}{2}$ $\frac{7}{12}$ $\frac{3}{4}$	Accept largest to smallest or smallest to largest	US	8
Question 15	Correct calculation	1	**1 mark:** Correct answer, ie (23 x 23) = 529		US	6
Question 16	Express the probability as a fraction	1	**1 mark:** Correct answer, ie $\frac{2}{9}$		US	31
Question 17	Identify heaviest child	4	**1 mark:** Correct answer given, ie Child C or 16.51 used in formula		PS	10
	Correct conversion from kg to g		**1 mark**: Correct conversion, ie (16.51 x 1000) = 16510(g)	Units not required Allow FT for wrong child used	PS	20b
	Use the correct order of precedence		**1 mark**: Correct amount of medicine calculated, ie (16510 ÷ 454 x 0.75) = 27.27422	Allow FT for wrong child used Allow rounded answers	PS	5
	Correct amount of medicine to 1dp		**1 mark:** Correct amount of medicine to 1 dp, ie 27.3 (ml)		PS	12b
Question 18	Calculate range	2	**1 mark:** Calculate correct range, ie (26 – 8) =18		PS	29b
	Give correct decision		**1 mark:** Correct decision, ie Yes		PS	29b
Question 19	Suitable groupings of data	3	**1 mark:** Suitable grouping chosen 0 – 10 11 – 20 21 – 30 31 – 40 40+	May be seen in calculation box Accept any number of consistent groups/classes with no overlaps	PS	28a
	Correct frequencies calculated		**1 mark:** Correct frequency based on consistent groupings, eg 7, 5, 8, 7, 3	May be seen in calculation box	PS	28a

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<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>Suitable table to display frequency</td><td></td><td>1 mark: Correct frequencies for their consistent groupings, eg
<table><tr><th>Minutes</th><th>Frequency</th></tr><tr><td>0 -10</td><td>7</td></tr><tr><td>11 – 20</td><td>5</td></tr><tr><td>21 – 30</td><td>8</td></tr><tr><td>31 – 40</td><td>7</td></tr><tr><td>40 +</td><td>3</td></tr></table></td><td>Must complete table including headings for this mark</td><td></td><td>27a</td></tr>
<tr><td>Question 20</td><td>Method to find total weight of items</td><td>3</td><td>1 mark: Valid method to find total, eg
5.25 + 4.02 + 3.08 + 2.68 (= 15.03)</td><td>Allow 15 - 5.25 - 4.02 - 3.08 - 2.68 = (-0.03)</td><td>PS</td><td>11a</td></tr>
<tr><td></td><td>Correct weight calculated</td><td></td><td>1 mark: Correct total, ie
15.03</td><td></td><td>PS</td><td>11a</td></tr>
<tr><td></td><td>Correct decision and reason</td><td></td><td>1 mark: Correct decision with reason, eg
No the total is 15.03 kg so it is over the limit.</td><td>Do not award without supporting calculations</td><td>PS</td><td>11a</td></tr>
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Task 4	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 21	One correct number of degrees calculated or one correct number of segments	3	**1 mark:** Correct number of degrees or number of segments calculated for at least **one** category, eg Sci Fi 4 segments 72° Drama 1 segment 18° Romance 6 segments 108° Comedy 4 segments 72° Action 5 segments 90°		US	27b
	Completed pie chart with correct segments for each category		**1 mark:** Correct number of segments for each category completed, ie Sci Fi 4 segments Drama 1 segment Romance 6 segments Comedy 4 segments Action 5 segments	Award if all degrees calculated correctly	US	27b
	Correct labelling		**1 mark:** All segments correct and appropriate labelling to include title and key		US	27b
Question 22	Method to calculate perimeter	4	**1 mark**: Method to calculate perimeter, eg 2.4 + 1.2 + 4.5 + 2.8 x 2 (= 21.8)	Award if 21.8 seen Award if 19.8 seen	PS	22b
	Correct total length of fencing needed		**1 mark:** Correct total length of fencing needed, eg (21.8m – 2m) = 19.8m	Units not required.	PS	20a
	Method to calculate number of fence panels		**1 mark:** Method to calculate number of fence panels, eg 19.8 ÷ 1.5 (=13.2)	Allow FT if 21.8 used	PS	22b
	Correct number of fence panels		**1 mark:** Correct number of fence panels, ie 13	Do not accept 14	PS	22b
Question 23	Convert from mm to cm or m	4	**1 mark:** convert mm to cm, ie 4000mm = 400cm = 4m OR 2000mm = 200cm = 2m OR 2m = 200cm = 2000mm		PS	23
	Method to calculate		**1 mark:** Method to calculate number of boxes, eg 4 ÷ 0.4 (=10) AND	Allow FT of their conversion	PS	23

	number of boxes that will fit in the van		2 ÷ 0.4 (=5) AND 10 x 5 x 5 (=250) OR 4 x 2 x 2 (= 16) AND 0.4 x 0.4 x 0.4 = 0.064 AND 16 ÷ 0.064 (= 250)	400 x 200 x 200 = 16000000 OR 40 x 40 x 40 = 64000 OR 0.4 x 0.4 x 0.4 = 0.064 OR 4 x 2 x 2 = 16m^2		
	Correct total number of boxes in one van		**1 mark:** Correct number of boxes, ie (16 ÷ 0.064) = 250 OR (10 x 5 x 5) =250		PS	23
	Correct decision and reason		**1 mark:** Correct decision with reason No she can only fit 250 boxes in the van		PS	23
Question 24	Correct total time	4	**1 mark:** Correct total time calculated, ie (75 + 84 + 23 + 53) = 235 (minutes)	Accept answer in hours 3.916… OR 3 hrs 55 mins	PS	20e
	Method to reduce by 2/5		**1 mark:** Method to decrease by 2/5, eg 235 ÷ 5 x 2 = 94 AND 235 – 94 OR 235 ÷ 5 x 3 = (141) Any other valid method	Allow FT for incorrect total time	PS	9
	Correct amount of time		**1 mark:** Correct reduced time, ie 141 (minutes)	Accept 2 hrs 21 minutes OR 2.35 hrs	PS	9
	Correct conversion		**1 mark:** Correct conversion to hours and mins ie, 2 hours and 21 minutes	Do not award for 2.35 hours or 2 hours and 35 minutes Award if 3hrs 55 minutes or 2 hrs 21 seen	PS	20e

Annotation notes:

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

Functional Skills in Mathematics Level 1 – Mapping matrix

Paper number	**FSMO107**					
Task number	**Section A**		**Section B**		**Total**	**%**
Total number of marks per Section	**15**		**45**			
Problem Solving (PS) maximum marks **Underpinning skills (US) maximum marks**	**9** **6**		**36** **9**		**Total no of sub-elements mapped = 33**	
Tick the box to confirm that Section B contains at least **three** 4 – 7 mark questions.			✓ ✓ ✓			
Level 1 Subject Content	**PS**	**US**	**PS**	**US**		
1. Read and write order and compare large numbers (up to one million)		1(Q3)			1	
2. Use both positive and negative numbers						
3a. Multiply whole numbers and decimals by 10, 100, 1000						
3b. Divide whole numbers and decimals by 10, 100, 1000		1(Q4)			1	
4. Use multiplication facts and make connections with division facts		1(Q1)			1	
5. Use simple formulae expressed in words for one or two-step operations			1(Q17)		1	
6. Calculate the squares of one-digit and two-digit numbers				1(Q15)	1	
7. Follow the order of precedence of operators						
8. Read, write, order and compare common fractions and mixed numbers				1(Q14)	1	
9. Find fractions of whole number quantities or measurements			2(Q24)		2	
10. Read, write order and compare decimals up to three decimal places			1(Q17)		1	
11a. Add decimals with decimals up to two decimal places			3(Q20)		3	
11b. Subtract decimals with decimals up to two decimal places	1(Q6)				1	
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(Q6)				1	

12b. Approximate by rounding to one or two decimal places			1(Q17)		1	
13. Read, write order and compare percentages in whole numbers						
14. Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof			2(Q12)		2	
15. Estimate answers to calculations using fractions and decimals						
16a. Recognise equivalences between common fractions, percentages and decimals		2(Q5)			2	
16b. Calculate equivalences between common fractions, percentages and decimals			3(Q11)		3	
17a. Work with simple ratio			3(Q12)		3	
17b. Work with direct proportions	4(Q7)				4	
Total: Number and number system	**PS**	**US**	**PS**	**US**	**29**	
18. Calculate simple interest in multiples of 5% on amounts of money						
19. Calculate discounts in multiples of 5% on amounts of money						
20a. Convert between units of length in the same system			1(Q22)		1	
20b. Convert between units of weight in the same system			1(Q17)		1	
20c. Convert between units of capacity in the same system						
20d. Convert between units of money in the same system		1(Q2)			1	
20e. Convert between units of time in the same system			2(Q24)		2	
21. Recognise and make use of simple scales on maps and drawings			1(Q13)		1	
22a. Calculate the area of simple shapes including those that are made up of a combination of rectangles			3(Q13)		3	
22b. Calculate the perimeter of simple shapes including those that are made up of a combination of rectangles			3(Q22)		3	
23. Calculate the volumes of cubes and cuboids			4(Q23)		4	
24a. Draw 2-D shapes and demonstrate an understanding of line symmetry				2(Q10)	2	
24b. Understand the relative size of angles						
25a. Interpret plans and elevations of simple 3-D shapes						

25b. Interpret nets of simple 3-D shapes				1(Q9)	1	
26. Use angles when describing position and direction and measure angles in degrees						
Total: Measure, shape and space	**PS**	**US**	**PS**	**US**	**19**	
27a. Represent discrete data in tables and diagrams			1(Q19)		1	
27b. Represent discrete data in charts i) pie charts, ii) bar charts and iii) line graphs				3(Q21)	3	
28a. Group discrete data			2(Q19)		2	
28b. Represent grouped data graphically						
29a. Find the mean of a set of quantities	3(Q8)				3	
29b. Find the range of a set of quantities			2(Q18)		2	
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				1(Q16)	1	
Total: Handling data	**PS**	**US**	**PS**	**US**	**12**	
Total Mark PS/US Total %	9	6	36	9	**60**	

Problem solving and decision-making requirements. Indicate the question numbers where this is required	Section A	Section B	
Read, understand, and use mathematical information and mathematical terms	Q6, Q7, Q8	Q11, Q12, Q13, Q17, Q18, Q19, Q20, Q22, Q23, Q24	
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.		Q17 (2), Q24(2)	
Use mathematical information and terms in a problem	Q6, Q7, Q8	Q11, Q12, Q13, Q17, Q18, Q19, Q20, Q22, Q23, Q24	
Use knowledge and understanding to a required level of accuracy	Q6, Q7, Q8	Q11, Q12, Q13, Q17, Q18, Q19, Q20, Q22, Q23, Q24	
Identify suitable operations and calculations to generate results	Q6, Q7, Q8	Q11, Q12, Q13, Q17, Q18, Q20, Q22, Q23, Q24	
Analyse and interpret answers in the context of the original problem	Q7, Q8	Q11, Q12, Q13, Q17, Q18, Q19, Q20, Q22, Q23, Q24	
Check the sense and reasonableness of answers	Q6, Q7, Q8	Q11, Q12, Q13, Q17, Q18, Q19, Q20, Q22, Q23, Q24	
Present results with appropriate explanation and interpretation demonstrating simple reasoning to support the process and show consistency with the evidence presented.	Q7	Q19, Q20, Q23	