

## Functional Skills in Mathematics Level 1 – Practice Mark Scheme

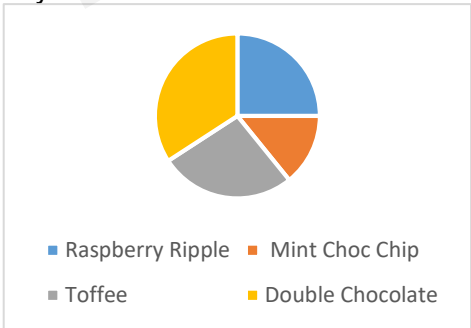
Paper: FSM103P

Section A	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 1	Correct calculation	1	<b>1 mark:</b> 12		US	4
Question 2	Correctly calculates square number	1	<b>1 mark:</b> 169		US	6
Question 3	Identifies correct shape	1	<b>1 mark:</b> B. Square-based pyramid		US	25b
Question 4	Correct range found	1	<b>1 mark:</b> Correct range calculated, ie $(9.3 - 3.6) = 5.7$		US	29b
Question 5	Correct subtraction of decimals Rounding to 1dp	2	<b>1 mark:</b> 46.05		US	11b
			<b>1 mark:</b> 46.1	FT for incorrect subtraction	US	12b
Question 6	Converts between units of length	5	<b>1 mark:</b> Evidence of changing km to m or m to km, eg $(10 \times 1000) = 10000$ OR $(25 \div 1000) = 0.025$	Award if 400 seen	PS	20a
	Method to calculate number of lengths		<b>1 mark:</b> Method to calculate number of lengths in 10km, eg $10000 \div 25 = (400)$ OR $10 \div 0.025 = (400)$ OR Any other method	Award if 400 seen	PS	20a
	Correct number of lengths found		<b>1 mark:</b> Correct number of lengths in 10k, ie 400		PS	20a
	Method to calculate sponsorship in £		<b>1 mark:</b> Method to calculate amount of money sponsored in £, eg $50 \div 100 \times 400 = (200)$ $400 \times 0.50 = (200)$ $400 \times 50 \div 100 = (200)$ Any other method	Award if (£)200 seen Allow FT for their number of lengths	PS	20d

	Correct amount of sponsorship in £		<b>1 mark:</b> Correct amount of money sponsored in £, ie £200	Do not award £20000	PS	20d
<b>Question 7</b>	Finds remaining balance after deposit	4	<b>1 mark:</b> Calculates cost of laptop after deposit, eg $(790 - 60) = (£)730$		PS	18
	Method to calculate 5% interest		<b>1 mark:</b> Method to calculate 5% of 730, eg $0.05 \times 730 = (36.5)$ $5 \div 100 \times 730 = (36.5)$ Finds 10% (73) then divides by 2 OR Any other method	Allow FT for method if used 790 Award if 36.5 seen	PS	18
	Correct amount of interest calculated		<b>1 mark:</b> Correct interest calculated, ie (£)36.50	Accept 36.5	PS	18
	Correct total cost of laptop including interest		<b>1 mark:</b> Correct total cost for laptop, ie $(790 + 36.5) = (£)826.50$	Do not accept 826.5	PS	18
<b>Section B</b>	<b>Process (Task description)</b>	<b>Total mark</b>	<b>Mark allocation</b>	<b>Comments</b>	<b>PS or US</b>	<b>Subject content (SoS)</b>
<b>Question 8</b>	Draws appropriate scale for data and paper size	3	<b>1 mark:</b> Appropriate scale used for paper size, eg y axis, 1 increment = 5 sales OR Any other suitable scale	Award if line graph drawn	US	27b
	Labelled graph/diagram correctly		<b>1 mark:</b> Diagram is labelled correctly, eg Appropriate title, y axis label and x axis label	Ignore minor spelling errors Award if line graph drawn	US	27b
	Data points plotted correctly		<b>1 mark:</b> Data points plotted correctly as bars on diagram.	Do not award for line graph Ignore no space between bars, Allow tolerance +/-1 increment	US	27b
<b>Question 9</b>	Correct calculation of total time of coach journey	4	<b>1 mark:</b> Correct calculation of coach journey, ie $4\frac{1}{2}$ hrs	May be implied Accept 4.5 hours or 4hrs 30mins	PS	20e
	Correct total time spent on activities		<b>1 mark:</b> Correct time calculated for activities, eg $(2 + 2.5 + 0.75 + 1.25 + 1.75) = 8.25$ OR $(2\text{hr} + 2\text{hr} + 1\text{hr} + 1\text{hr} + 30\text{ mins} + 45\text{ mins} +$	May be implied	PS	20e

	Method to calculate departure time		15 mins + 45 mins) = 8hrs 15 mins OR Any other method		
	Correct departure time		<b>1 mark:</b> Method to calculate time to depart, eg works backwards from 19:30 $19.5 - 8.25 - 4.5 = (6.75)$ OR $7:30\text{pm} - 8\text{hrs } 15 = 11:15$ AND $11:15 - 4\text{hrs } 30 = 06:45\text{am}$ OR Any other method	Award if 6.45am seen Allow FT for incorrect time on activities/coach.	PS 20e
			<b>1 mark:</b> Correct departure time, ie 6:45am	Accept 6:45 or 06:45 Do not accept 6.75	PS 20e
<b>Question 10</b>	Method to calculate cost of activities	3	<b>1 mark:</b> Method to add up cost of activities, eg $7.82 + 24.65 + 30.95 = (£63.42)$ OR Any other method	May be implied	PS 11a
	Method to calculate cost pp for coach		<b>1 mark:</b> Method to calculate cost per person for coach, eg $226 \div 10 = (£22.6)$ OR Any other method	May be implied Award if 86.02 seen	PS 3b
	Correct total cost pp		<b>1 mark:</b> Correct total cost per person, ie $(63.42 + 22.6) = (£)86.02$	Do not accept truncated or rounded values	PS 11a
<b>Question 11</b>	Method to calculate volume	3	<b>1 mark:</b> Method to calculate volume of either cake, eg $32 \times 32 \times 12 = (12288\text{cm}^2)$ OR $(25 \times 25 \times 12) + (18 \times 18 \times 12) = (11388\text{cm}^2)$		PS 23
	Correct volume of cake found		<b>1 mark:</b> Correct volume of either cake, ie $12288(\text{cm}^2)$ OR $11388(\text{cm}^2)$	Units not required	PS 23
	Correct cake choice		<b>1 mark:</b> Correct cake chosen, ie Large cake	Do not award unless supported by calculations for both cakes.	PS 23
<b>Question 12</b>	Method to calculate 35% off	2	<b>1 mark:</b> Method to calculate discount, eg $35 \div 100 \times 69.99$ $0.35 \times 69.99$ $69.99 \times 0.65$ OR Any other method	Award if 24.4965, 24.49, 24.50 or 45.50 seen	PS 19
	Correct cost of bracelet		<b>1 mark:</b> Correct cost of bracelet, ie $(69.99 - 24.50) = (£)45.49$	Allow 45.50 Units not needed but 2 dp must be present	PS 19

	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
<b>Question 13</b>	Correctly drawn symmetrical triangle	<b>1</b>	<b>1 mark:</b> Correctly drawn triangle with at least one line of symmetry, eg equilateral, isosceles, right angled triangle	Line of symmetry need not be shown. Do not award for scalene triangle	US	24a
<b>Question 14</b>	Correct order of fractions	<b>1</b>	<b>1 mark:</b> $\frac{1}{4}$ $\frac{3}{10}$ $\frac{1}{3}$ $\frac{4}{5}$ $1\frac{3}{4}$	Accept largest to smallest	US	8
<b>Question 15</b>	Correct position on line found	<b>1</b>	<b>1 mark:</b> Line marked at correct place for 1/6		US	30
<b>Question 16</b>	Method to convert a fraction into a percentage	<b>3</b>	<b>1 mark:</b> Correctly converts any fraction into a percentage, ie (2 ÷ 5 × 100) = 40% OR (3 ÷ 10 × 100) = 30% OR (1 ÷ 10 × 100) = 10%	May be seen on table	PS	16b
	Fully completes percentage column		<b>1 mark:</b> Correct completed percentage column, ie Bus: 40%, Bike: 30%, Walk: 10%	Award if seen in calculations box	PS	27a
	Fully completes frequency column		<b>1 mark:</b> Correctly completes frequency column, ie Bus: 12, Bike: 9, Walk: 3	Award if seen in calculations box	PS	27a
<b>Question 17</b>	Method to calculate a third off travel	<b>3</b>	<b>1 mark:</b> Method to calculate $\frac{1}{3}$ eg 1 ÷ 3 × 6.15 6.15 ÷ 3 1 ÷ 3 × 30.75 30.75 ÷ 3 OR Any other method	Allow calculation of $\frac{2}{3}$ eg 2 ÷ 3 × 6.15 etc May be implied Award if £4.10 or £20.50 seen Award if 7 days used	PS	9
	Correct cost of travel per week		<b>1 mark:</b> Correct cost of weekly travel after discount, ie (£)20.50 per week		PS	9
	Correct decision and reason		<b>1 mark:</b> Correct decision and reason, eg Yes, Karen is correct, her travel is 97p cheaper than Ben's	Allow FT if 7 days used	PS	9
<b>Question 18</b>	Method to calculate area	<b>4</b>	<b>1 mark:</b> Method to calculate area of lounge, eg (4.9 × 5.7) – (2.4 × 3.1) = (20.49m <sup>2</sup> ) (2.5 × 5.7) + (2.4 × 2.6) = (20.49m <sup>2</sup> ) (4.9 × 2.6) + (3.1 × 2.5) = (20.49m <sup>2</sup> )	Award if 20.49 seen Allow FT for incorrect missing lengths	PS	22a

	Correct area of lounge		<b>1 mark:</b> Correct area of lounge calculated, ie 20.49(m <sup>2</sup> )		PS	22a
	Method to calculate cost of carpet and underlay		<b>1 mark:</b> Method to calculate cost of carpet, eg $(7.99 \times 20.49) + (2.99 \times 20.49) = 224.9802$ $(7.99 + 2.99) \times 20.49 = 224.9802$	Allow FT for their area Award if 224.98 seen	PS	11c
	Correct total cost of carpet and underlay		<b>1 mark:</b> Correct total cost of carpet and underlay, ie (£) 224.98	Units not required Do not accept more or less than 2 dp	PS	11c
<b>Question 19</b>	Method to calculate amount of edging strip	<b>2</b>	<b>1 mark:</b> Method to calculate perimeter, eg $2.4 + 2.4 + 3.1 + 3.1 + 0.65 + 0.65 = (12.3\text{m})$ OR $2.4 + 3.1 + 2.4 + 0.9 + 0.65 + 0.65 + 1.25 + 0.95 = (12.3\text{m})$	Award if 12.3 seen	PS	22b
	Correct decision		<b>1 mark:</b> Correct decision, eg No, because she needs 12.3m but only has 12m		PS	22b
	<b>Process (Task description)</b>	<b>Total mark</b>	<b>Mark allocation</b>	<b>Comments</b>	<b>PS or US</b>	<b>Subject content</b>
<b>Question 20</b>	Drawn a correct angle and label on pie chart	<b>2</b>	<b>1 mark:</b> Correctly drawn angle for at least one segment with correct corresponding label, eg 90° AND Raspberry ripple/30 OR 51° AND Mint choc chip/17 OR 96° AND Toffee/32 OR 123° AND Double chocolate/41	Accept flavour or number sold as label	US	27b
	All four segments correctly drawn and labelled		<b>1 mark:</b> Correctly drawn pie chart with key/labels. 	Allow +/- 2° tolerance on pie chart Title not required for mark	US	27b
<b>Question 21</b>	Correctly measured angle	<b>1</b>	<b>1 mark:</b> 140°	Units not needed	US	26

<b>Question 22</b>	Convert between kg/g or g/kg	4	<b>1 mark:</b> Converts kg to g or g to kg, eg $0.8 \times 1000 = (800\text{g})$ OR $500 \div 1000 = (0.5\text{kg})$	May be implied	PS	20b
	Method to calculate total amount of beef for recipe.		<b>1 mark:</b> Method to calculate total amount of beef needed, eg $500 \div 4 \times 7 = (875\text{g})$ $0.5 \div 4 \times 7 = (0.875\text{kg})$ OR Build up method OR Any other method	Award for method if multiplies by 6 instead of 7	PS	17b
	Correct amount of beef		<b>1 mark:</b> Correct total amount of beef calculated, ie 875(g), 0.875(kg)		PS	17b
	Correct decision		<b>1 mark:</b> Correct decision and valid reason, eg No, Mike does not have enough for the recipe, he needs 75g more.		PS	17b
<b>Question 23</b>	Correct conversion following rule	2	<b>1 mark:</b> Correct temperature calculated following rule, ie $(320 - 32 \div 1.8) = 160(^{\circ}\text{C})$		PS	5
	Correct decision		<b>1 mark:</b> Correct decision, eg No, because his oven is 10 degrees too low OR No because he should have set his oven to 160 instead of 150 OR Any other valid reason		PS	5
<b>Question 24</b>	Total run time for a mean of 6.5 calculated	3	<b>1 mark:</b> Total run time calculated from average, ie $(6.5 \times 4) = 26$ (miles)		PS	29a
	Method to work out missing miles		<b>1 mark:</b> Method to calculate difference between target total and actual total, eg $26 - (6.7 + 7.1 + 5.8) = (6.4 \text{ miles})$	Award mark if calculates mean of 3 times correctly, ie 6.53 OR 6.5	PS	29a
	Correct number of miles for 4 <sup>th</sup> run calculated		<b>1 mark:</b> Correct number of miles, ie 6.4(miles)		PS	29a
<b>Question 25</b>	Method to calculate %	3	<b>1 mark:</b> Method to calculate 5% of biscuits, eg $52000 \times 0.05 = (2600)$ OR $5 \div 100 \times 52000 = (2600)$	Award if 49400 seen Award if 2600 seen Award for correct method to find	PS	14

	Correct number of remaining biscuits			45% of 52000		
			<b>1 mark:</b> Correct number of biscuits left after 5% removed, ie 49400		PS	14
			<b>1 mark:</b> Correct number of biscuits exported, ie $(49400 \times 0.45) = 22230$		PS	14

**Annotation notes:**

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