



Functional Skills Mathematics Level 2 – Practice Mark Scheme

Paper: FSMO209

Section A	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 1	Express one number as fraction of another	1	1 mark: Correct answer shown, ie $\frac{1}{8}$		US	8
Question 2	Method to calculate Pressure	2	1 mark: Method to calculate pressure, eg $8000 \div 25$	May be implied	US	15d
	Correct pressure calculated		1 mark: 320		US	15d
Question 3	Put fractions in order of size	1	1 mark: Correct order shown, ie $\frac{3}{7}$ $\frac{5}{9}$ $\frac{7}{10}$ $\frac{4}{5}$ $\frac{7}{3}$	Accept largest to smallest Accept use of mixed number	US	7a
Question 4	Correct number of red or purple pens out of total number of pens	2	1 mark: Probability of pen being red or purple, eg, $\frac{10}{16}$ or $\frac{5}{8}$, OR "10 out of 16"	Accept 0.625	US	27c
	Probability expressed as a percentage		1 mark: Probability expressed as a percentage, ie = 62.5(%)		US	27c
Question 5	Calculates scale from diagram	3	1 mark: Correctly calculates scale, eg $(9 \div 18) = 0.5\text{m per square}$ OR $(6.5 \div 13) = 0.5\text{m per square}$ OR 50cm per square OR 1m = 2 squares	May be seen on diagram	PS	18b
	Method to calculate one dimension		1 mark: Method to calculate at least one scale measurement, eg $3.9 \div 0.5 = (7.8 \text{ squares})$ OR $9 \div 0.5 = (9 \text{ squares})$ OR $0.75 \div 0.5 = (1.5 \text{ squares})$ OR Any other valid method	May be seen on diagram	PS	18b

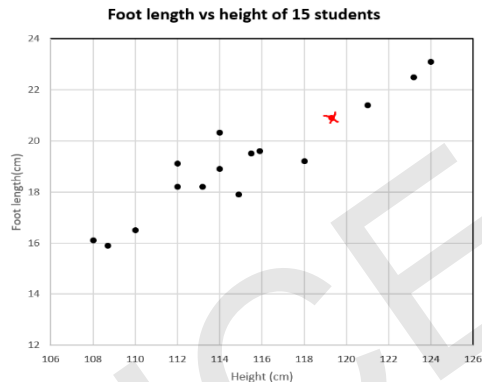


	Correct diagram drawn of workshop		1 mark: Correctly draws workshop in appropriate position on plan, ie 9 squares by 7.8 squares at least 1.5 squares from edges.	Allow tolerance +/-1mm Do not accept 8 squares for width	PS	18b
Question 6	Method to convert currency	3	1 mark: Method to convert £ to \$ or \$ to £, eg $260 \div 0.80 = (\$325)$ OR $310 \times 0.80 = (£248)$	Award if (\$325 OR (£248 seen	PS	11b
	Correct conversion in \$ or £		1 mark: Correct converted cost of either phone, ie (\$325 OR (£248		PS	11b
	Correct decision with reason		1 mark: Correct decision and reason, eg No because Rana's phone was equivalent to \$325 No, because the phone Rana's uncle found was £12 cheaper. Any valid reason with supporting calculations		PS	11b
Question 7	Method to calculate call charges	3	1 mark: Method to add all call charges, eg $0.195 + 0.074 + 0.126 + 0.030 + 0.210 + 0.814 + 0.123 = (1.572)$	Award if one error Award if 0.29 or 1.57 seen Accept alternative method $1.862 - 0.195 - 0.074 - 0.126 - 0.030 - 0.210 - 0.814 - 0.123 = (0.29)$	PS	10a
	Correct subtotal for call charges		1 mark: Correctly adds all values, ie 1.572	Award if 0.29 seen Accept 1.57	PS	10a
	Correct extra charge		1 mark: Correct extra charge), ie $(1.862 - 1.572) = 0.29$		PS	10b
Section B	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 8	Method to express one amount as a percentage of another	2	1 mark: Method to calculate percentage of students who fail, eg $19 \div 463 \times 100 = (4.1\%)$ OR $100 \div 463 \times 19 = (4.1\%)$ OR Other valid method	Award for correct method for percentage of students who pass, $444 \div 463 \times 100$	US	5b
	Correct percentage of students who fail		1 mark: Correct percentage calculated, ie 4.1(%)	Accept 4%	US	5b



Question 9	Puts decimals in order of size	1	1 mark: Correct order shown, ie 2.112, 2.122, 2.962, 22.36, 22.8	Accept largest to smallest	US	9a
Question 10	Method to calculate median property rental income	5	1 mark: Method to calculate median, eg $10200 + 10500 \div 2 = (10350)$ OR Any other valid method		PS	23a
	Correct median property rental income		1 mark: Correct median calculated, ie (£)10350		PS	23a
	Correct yearly income calculated		1 mark: Correct calculation of yearly income, ie $(795 \times 12) = 9540$	Accept if calculates monthly income rate from median, ie $10350 \div 12 = 862.50$	PS	15c
	Method to calculate property rent as a % below median		1 mark: Method to calculate percentage difference, eg $(10350 - 9540) = 810 \div 10350 \times 100 = (7.826\dots)$	Accept if calculates percentage difference based on monthly values, eg $67.5 \div 862.5 \times 100 = 7.826\dots$ Allow FT for their median and yearly income	PS	6
	Correct % below median average calculated		1 mark: Correct percentage below median calculated, ie 7.8(%)	Accept 8%, 7.826...%	PS	6
Question 11	Correct interest for 1 year of saving	3	1 mark: Correct amount of interest for 1 year, ie $(0.024 \times 5000) = (£)120$	Award if 5242.88 seen May be implied	PS	13a
	Correct method to calculate compound interest at 2.4% per annum		1 mark: Correct method to calculate compound interest, eg $(5000 + 120) \times 0.024 = (122.88)$ OR $5000 \times 1.024^2 = (5242.88)$	Award if 122.88 OR 5242.88 seen	PS	13a
	Correct total amount saved after 2 years		1 mark: Correct total amount saved, ie (£)5242.88		PS	13a
Question 12	Calculates figures for formula	4	1 mark: Correct amount borrowed, ie $(192300 - 61500) = 130800$		PS	2
	Substitutes figures into formula		1 mark: Substitutes values into formula, ie $130800 \div 192300 \times 100 = (68.018\dots)$	Allow FT for incorrect loan amount	PS	3

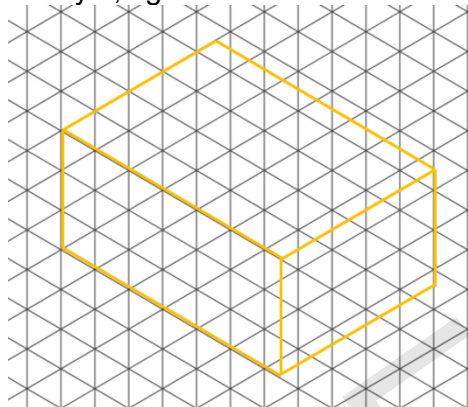


	Correct LTV calculated		1 mark: Correct LTV calculated, ie 68.018%	Accept rounded or truncated answers	PS	3
	Correct decision		1 mark: Correct decision and reason, eg Yes, because the LTV is 7% below the limit	DO not accept “yes” without valid reason	PS	3
	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 13	Draw point in correct position on graph	1	1 mark: Point drawn correctly at 119.3,20.9 	Allow tolerance +/- 1mm	US	28a
Question 14	Correct multiplication of decimals	1	1 mark: Correct answer shown, ie 26.490165	Accept 26.49 or 26.5	US	10c
Question 15	Converts fraction into decimal	1	1 mark: Correct answer shown, ie 1.75		US	4
Question 16	Calculate frequency from given values	6	1 mark: Correct frequencies, ie 4, 6, 8, 1		PS	24
	Calculate midpoint		1 mark: Correct midpoint, ie 2, 7, 12, 17, 22, 27		PS	24
	Use correct method to calculate estimated total of grouped discrete data		1 mark: Method to find estimated total number of gym visits, ie $(6 \times 2) + (5 \times 7) + (4 \times 12) + (6 \times 17) + (8 \times 22) + (1 \times 27) = (400)$	Allow FT using their answers to mark point 1 and 2 Award if 400 seen	PS	24



	Correct total		1 mark: Correct estimated total number of gym visits, ie 400		PS	24
	Use correct method for calculating the estimated mean number of races entered		1 mark: Correct method for calculating the estimated mean number of gym visits $400 \div 30 = (13.33\dots)$	Allow FT	PS	24
	Correct estimated mean calculated		1 mark: Correct estimated mean number of gym visits, ie 13	Allow 13.33... Must have calculations to back up answer	PS	24
Question 17	Diameter to outside edge calculated	6	1 mark: Calculates total diameter, ie $(1.22 \times 12 + 73) = 87.64(\text{m})$		PS	16a
	Method to calculate perimeter of track		1 mark: Method to calculate distance around perimeter of track, eg $2 \times 84.39 + 3.142 \times 87.64 = (444.14488)$ $168.78 + 275.36488 = (444.14488)$	Allow FT for their diameter	PS	16a
	Correct perimeter calculated		1 mark: Correct perimeter calculated, ie 444.14488(m)	Allow truncated answers	PS	16a
	Method to calculate number of laps needed to run 1200m		1 mark: Method to calculate number of laps, eg $1200 \div 444.14 = (2.70\dots)$ OR Any other method	Accept $444.14 \times 3 = (1332.42)$ Allow FT for their perimeter	PS	16a
	Correct number of laps calculated		1 mark: Correct number of laps around the perimeter, eg 2.7...	Allow correct distance in m for 3 x around the edge of the track, ie 1332(m) Do not allow FT	PS	16a
	Correct decision and explanation		1 mark: Yes, and valid explanation, eg Holly will complete 1332 m if she runs 3 times around the edge of the track. Holly only needs to do 2.7 times around the track to run 1200m.		PS	16a



	Process (Task description)	Total mark	Mark allocation	Comments	PS or US	Subject content
Question 18	Cuboid drawn correctly	2	2 marks: Cuboid drawn with correct dimensions- 4.5 by 6.5 by 3, eg 	Award 1 mark for two correct dimensions Allow tolerance +/-1mm Do not award for correct dimensions on a 2d shape	US	21a
Question 19	Correct calculation	1	1 mark: Correct percentage found, ie $(0.37 \times 108) = 39.96$		US	5a
Question 20	Use conversion chart to convert inch to mm	5	1 mark: Uses chart to convert inches into mm eg 190(mm)	May be implied Award for 189-191mm	PS	14a
	Method to calculate number of beads needed for each bracelet		1 mark: Method to calculate number of beads per bracelet, eg $190 \div 4 = (47.5)$ OR Any other valid method	Award if 47, 47.5 or 48 (beads) seen Allow FT May be implied by final answer	PS	14a
	Correct number of beads per bracelet		1 mark: Correct number of beads needed, ie 48 Accept 47.	May be implied by final answer	PS	14a
	Method to calculate number of bracelets per pack		1 mark: Method to calculate number of bracelets, eg $800 \div 47 = (17.021...)$ OR $800 \div 48 = (16.666...)$	Allow FT	PS	14a
	Correct number of bracelets calculated		1 mark: Correct number of bracelets, ie $(800 \div 47) = 17$ bracelets OR $(800 \div 48) = 16$ bracelets	Do not accept decimal answer	PS	14a



Question 21	Method to calculate 18% discount	4	1 mark: Method to calculate discount, eg $0.18 \times 59.99 = (10.7982)$ OR $0.82 \times 59.99 = (49.1918)$ OR Any other valid method	Award if 10.7982 OR 49.1918 seen Award alternative method based on cost per bead, $59.99 / 800 = 0.074...$ $0.074 \times 0.82 = (£0.0614...)$	PS	13b
	Correct discount calculated		1 mark: Correct cost including discount, ie $(59.99 - 10.7982) = (£)49.19$	Award if 0.06, 6p seen	PS	13b
	Correct cost per bead calculated		1 mark: Correct cost per bead, ie $(49.19 \div 800) = 0.0614875$	Award for truncated answers	PS	13b
	Correct cost to nearest whole pence		1 mark: (£)0.06	Accept 6(p) Money notation not required	PS	9b
Question 22	Method to convert weight of parcel into kg/grams	3	1 mark: Method to convert lbs to kg or oz to grams eg $1 \div 2.2 = (0.454...)$ OR $2 \times 28.35g = (56.7g)$ OR $18 \times 28.35 = (510.3g)$	Award if 0.454, 56.7 or 455g seen	PS	14b
	Correct weight of parcel calculated		1 mark: Correct weight of parcel $(0.455 \times 1000 + 56.7) = 511.7g$	Accept 510.7, 506.7, 510.3	PS	14b
	Correct postage cost chosen		1 mark: Correct cost for postage choice of 750g parcel, second class, ie £2.33		PS	14b

Annotation notes:

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