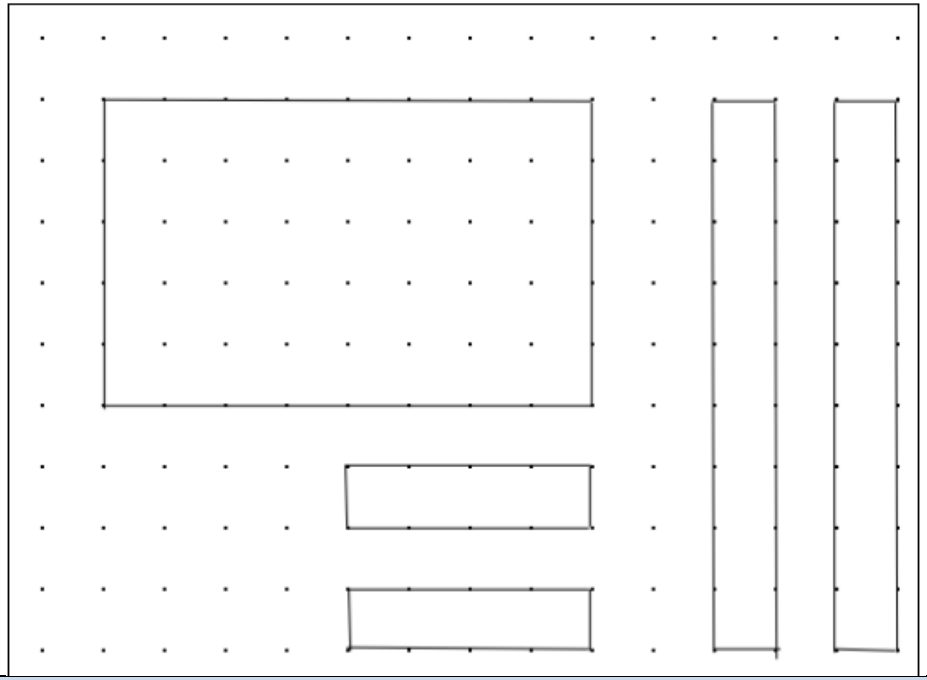
Highfield Functional Skills Qualification in Mathematics at Level 2 PAPERCODE: FSQC210P_MS

Question	Total marks	Content Ref	Process	Marker annotation	Accepted answer AFT = allow follow through CAO = correct answer only OE = or equivalent
Underpinning Knowledge					
1 (Q8 On-screen)	**1**	**19**	Identifies sixth corner	**1CA**	**CAO** **-2, 1**
2 (Q9 On-screen)	**2**			**2CA**	**CAO** **78.5°**
		If answer incorrect revert to:			
		22	Method to find angle	**1a**	CAO – method (180 – 23) ÷ 2
		22	Finds correct missing angle	**1b**	CAO 78.5°
3 (Q10 On-screen)	**1**	**1**	Correct difference found	**1CA**	**CAO** **3,218.8(ft)**
4 (Q11 On-screen)	**1**	**4**	Identifies correct equivalent fraction	**1CA**	**CAO** $\frac{120}{300}$
5 (Q12 On-screen)	**2**			**2CA**	**CAO** **(£)573,310.38**
		If answer incorrect revert to:			
		1	Correctly converting to digits in sum	**1a**	CAO 810,530 – 237,219.62
		2	Finds correct answer	**1b**	CAO (£)573,310.38

6 (Q13 On-screen)	**1**	**9**	Orders decimals correctly	**1CA**	**CAO** **25.246, 25.462, 25.642, 26.524**
7 (Q14 On-screen)	**2**			**2CA**	**CAO** **9.656 (litres)**
		If answer incorrect revert to:			
		14	Appropriate method to find 1 pint OE	**1a**	CAO 2.84 ÷ 5 = 0.568
		14	Converts to litres	**1b**	AFT 0.568 x 17 = 9.656 (litres)
8 (Q15 On-screen)	**1**	**9**	Selects the correct largest value	**1CA**	**CAO** $\frac{7}{3}$
9 (Q16 On-screen)	**2**			**2CA**	**CAO** **Graph A: Negative Graph B: Positive**
		If answer incorrect revert to:			
		28	Correctly identifies graph A	**1a**	CAO Negative
		28	Correctly identifies graph B	**1b**	CAO Positive
Problem Solving					
10 (Q17 On-screen)	**5**			**5CA**	**CAO** **Net Pay: £1513.14**
		If answer incorrect revert to:			
		10	Calculates monthly taxed amount after tax-free allowance	**1a**	CAO 22124.48 – 12500 = 9624.48 ÷ 12 = 802.04
		13	Calculates PAYE tax	**1b**	AFT (802.04) ÷ 100 x 18.62 = **£149.34**
		13	Calculates NI tax	**1c**	AFT (802.04) ÷ 100 x 15.7 = **£125.92**
		13	Calculates Pension	**1d**	CAO 1843.71 ÷ 100 x 3 = **£55.31**
		10	Calculates Net Pay	**1e**	CAO 1843.71 – 149.34 – 125.92 – 55.31 = **£1513.14**

11 (Q18 On-screen)	**7**			**7CA**	**CAO** **Route C is fastest with accurate figures: 175 mins, 177.33 mins, 162 mins**
		If answer incorrect revert to:			
		8	Method to find reductions in time for Route A	**1a**	method 105 ÷ 9 x 7 = (81.67 mins) (allow for appropriate rounding) 105 ÷ 9 x 8 = (93.33 mins) (allow for appropriate rounding)
		8	Finds correct total time for Route A	**1b**	CAO 81.67 mins (allow for appropriate rounding) 93.33 mins (allow for appropriate rounding) 175 mins total
		11	Method to find additions in time for Route	**1c**	method 70 ÷ 6 x 2 + 70 = (93.33 mins) (allow for appropriate rounding) 70 ÷ 5 + 70 = (84 mins)
		11	Finds correct total time for Route B	**1d**	CAO 93.33 mins (allow for appropriate rounding) 84 mins 177.33 mins total
		5	Method to find additions in time for Route C	**1e**	method 60 ÷ 100 x 42 + 60 = (85.2 mins) 60 ÷ 100 x 28 + 60 = (76.8 mins)
		5	Finds correct total time for Route C	**1f**	CAO 85.2 mins 76.8 mins 162 mins total
		1	Compares total times and makes correct decision	**1g**	CAO Route C is fastest with accurate figures: 175 mins, 177.33 mins, 162 mins

12 (Q19 On-screen)	**7**			**7CA**	**CAO** **1.76 (hours)** *Accept if converted to actual time e.g. 1h 46m*
		If answer incorrect revert to:			
		23	Midpoints identified	**1a**	CAO 1, 3, 5, 7 and 9 *Accept other appropriate consistent points, e.g. upper or lower boundaries*
		24	Method to find mean of grouped frequency for April	**1b**	CAO – method (Allow for upper or lower boundaries used) (7 × 1) + (4 × 3) + (11 × 5) + (5 × 7) + (6 × 9) (= 163)
		24	Finds mean of grouped frequency for April	**1c**	AFT 163 ÷ (7 + 4 + 11 + 5 + 6) (= 4.94)
		24	Method to find mean of grouped frequency for May	**1d**	CAO – method (Allow for upper or lower boundaries used) (13 × 1) + (10 × 3) + (7 × 5) + (3 × 7) + (1 × 9) (= 108)
		24	Finds mean of grouped frequency for May	**1e**	AFT 108 ÷ (13 + 10 + 7 + 3 + 1) (= 3.18)
		25	Calculates difference	**1f**	AFT (4.94) – (3.18) *Accept any appropriate rounding*
		10	Correct difference calculated	**1g**	CAO 1.76 (hours) *Accept if converted to actual time e.g. 1h 46m*

13 (Q20 On-screen)	**5**			**5CA**	**CAO** **5 pieces drawn correctly, to the correct scale** 
		If answer incorrect revert to:			
		20	Correct interpretation of drawing	**1a**	CAO All 5 pieces drawn *(if any other number of pieces drawn, do not give mark)*
		20	Correct interpretation of drawing	**1b**	CAO All pieces are proportional to each other *(if incorrect scale used, but pieces are still in scale to another – still award mark)*
		18	Correct interpretation of scale	**1c**	CAO At least one rectangle drawn correctly, to scale
		18	Correct interpretation of scale	**1d**	CAO At least three of five rectangles drawn correctly, to scale
		18	Correct interpretation of scale	**1e**	CAO All five rectangles drawn correctly, to scale

14 (Q21 On-screen)	**5**			**5CA**	**CAO** **8751.466368** *(accept any appropriate rounding)*
		If answer incorrect revert to:			
		14	Converts measurements from inches to cm	**1a**	CAO 20 x 2.54 = 50.8(cm) 12 x 2.54 = 30.48(cm) 6 x 2.54 = 15.24(cm)
		17	Method to calculate surface area of at least one side	**1b**	AFT (50.8) x (15.24) **OR** (50.8) x (30.48) **OR** (30.48) x (15.24)
		17	Finds total surface area of cuboid	**1c**	AFT (50.8) x (15.24) x 2 = 1548.384 (50.8) x (30.48) x 2 = 3096.768 (30.48) x (15.24) x 2 = 929.0304 1548.384 + 3096.768 + 929.0304 = 5574.1824
		3	Correct substitution into formulae	**1d**	AFT (5574.1824) x (0.5 x 3.14)
		3	Finds correct answer	**1e**	CAO 8751.466368 *(accept any appropriate rounding)*
15 (Q22 On-screen)	**6**			**6CA**	**CAO** **(£)4.92 (per hour)**
		If answer incorrect revert to:			
		13	Full method to find total money from sales	**1a**	method (46 × 6.75) + (31 × 8.99) (= 310.5 + 278.69) = 589.19
		6	Method to find 58% of total	**1b**	AFT (589.19) × 0.58 OE
		6	Finds 58% of total	**1c**	CAO 341.7302 *(accept appropriate rounding, e.g. 341.73)*
		11	Method to find total time spent	**1d**	CAO - method (0.5 × 46) + (1.5 × 31) (= 69.5)
		15	Method to find hourly rate	**1e**	AFT (341.7302) ÷ (69.5)
		15	Finds correct profit per hour	**1f**	CAO (£)4.92 (per hour)

16 (Q23 On-screen)	**5**			**5CA**	**CAO** **28(.98)%** *(accept any appropriate rounding e.g. 29%, 28.9796, etc.)*
		If answer incorrect revert to:			
		25	Method to find mean of first 6 months	**1a**	(212 + 194 + 245 + 302 + 275 + 242) ÷ 6
		25	Method to find mean of first 6 months	**1b**	(298 + 275 + 306 + 314 + 339 + 364) ÷ 6
		25	Both mean values correct	**1c**	CAO 245 and 316
		5	Method to find % increase	**1d**	AFT - method (316) – (245) = (71) (71) ÷ (245) = (0.2898 x 100)
		13	Finds correct percentage increase	**1e**	CAO 28(.98)% *(accept any appropriate rounding e.g. 29%, 28.9796, etc.)*