Highfield Functional Skills Qualification in Mathematics at Level 2 PAPERCODE: FSQC208_MS

Question	Total marks	Content Ref	Process	Marker annotation	Accepted answer AFT = allow follow through CAO = correct answer only OE = or equivalent SC = Special case
Underpinning Knowledge					
1 (Q8 On-screen)	**1**	**9**	Correct order	**1CA**	**CAO** **0.099 0.395 0.4 0.54**
2 (Q9 On-screen)	**1**	**10**	Correct answer	**1CA**	**CAO** **14.25**
3 (Q10 On-screen)	**2**			**2CA**	**CAO** **35%**
		5	Method to find %	**1a**	method 578.55 ÷ 1653 × 100
		5	Correct answer	**1b**	**CAO** 35(%)
4 (Q11 On-screen)	**1**	**19**	Identifies the correct coordinate of the pentagon	**1CA**	**CAO** **-5, -3**
5 (Q12 On-screen)	**2**			**2CA**	**CAO** **3.765** *(accept 3.77)*
		If answer incorrect revert to:			
		23	Correct method to find median	**1a**	**CAO** (3.78 + 3.75) ÷ 2
		23	Correct answer	**1b**	**CAO** 3.765 *(accept 3.77)*

6 (Q13 On-screen)	**1**	**12**	Correct answer	**1CA**	**CAO** **144**
7 (Q14 On-screen)	**2**			**2CA**	**CAO** **$^{5}/_{12}$ of 930 AND 375 and 387.5**
		If answer incorrect revert to:			
		7	Correct methods to find answers	**1a**	**CAO** 1000 ÷ 8 × 3 = 375 and 930 ÷ 12 × 5 = 387.5
		7	Identifies larger value	**1b**	**AFT** $^{5}/_{12}$ of 930
8 (Q15 On-screen)	**1**	**4**	Correct answer	**1CA**	**CAO** $\frac{\mathbf{13}}{\mathbf{10}}$
9 (Q16 On-screen)	**2**			**2CA**	**CAO** **61.6(66..)**
		If answer incorrect revert to:			
		24	Method to find mean	**1a**	method 57.5 × 4 (= 230) 62.5 × 6 (=375) 67.5 × 2 (=135) (740) ÷ 12
		24	Correct answer	**1b**	**CAO** 61.6(66..) *accept any suitable rounding*

Problem Solving					
10 (Q17 On-screen)	**7**			**7CA**	**CAO** **No and (£)18500 > (£)17501.40 or** **No and 18(.39%)**
		If answer incorrect revert to:			
		3	One profit figure calculated (using written formula)	**1a**	**CAO** **Any one of:** 27800, 11050, 27500, -9250, 11,000, 16950, 32955
		2	All profit figures calculated accurately	**1b**	**CAO** 27800 and 11050 and 27500 and -9250 and 11,000 and 16950 and 32955
		25	Method to find mean profit of house and flat	**1c**	**AFT** (27800 + 11,000 + 32955 - 9250) ÷ 4 And (11050 + 27500 + 16950) ÷ 3
		25	Correct mean figures	**1d**	**CAO** House 15626.25 Flat 18500
		13	Method to find house profit + 12% or actual increase	**1e**	**AFT** (15626.25) × 1.12 Or (18500 – 15626.25) ÷ (15626) × 100
		13	12% increase or actual % increase	**1f**	**AFT** (17501.40) or (18(.39%))
		1	Correct decision with accurate figures	**1g**	**CAO** No and (£)18500 > (£)17501.40 or No and 18(.39%)

11 (Q18 On-screen)	**6**			**6CA**	**CAO** **3.4(m) x 6.75(m)**
		If answer incorrect revert to:			
		5	Method to calculate 40% width of current house	**1a**	8.5 x 0.4 = 3.4 OE
		16	Method to calculate area of current house	**1b**	18 x 8.5
		16	Finds total area of current house	**1c**	CAO 153(m^2)
		5	Calculates 15% of the total area of the current house	**1d**	AFT (153) x 0.15 = 22.95 OE
		11	Divides the total area to find the correct dimension for the length	**1e**	AFT (22.95) ÷ (3.4) = 6.75
		16	Both correct dimensions found	**1f**	CAO 3.4(m) x 6.75(m)

12 (Q19 On-screen)	**6**			**6CA**	**CAO** **2:53(pm) or 3.11(pm) OE**
		If answer incorrect revert to:			
		15	Identifies a route, starting and finishing at office (O) and visiting each house once only.	**1a**	**CAO** Route 1: O-A-B-D-C-O (or in reverse) Route 2: O-C-A-B-D-O (or in reverse)
		15	Calculates time for any one distance or identifies total main road distance and minor road distance for their route	**1b**	**AFT** e.g. 42 ÷ 70 × 60 OR Route 1: (42 + 35 + 56) = 133 and (27 + 39) = 66 Route 2: (39 + 35) = 74 and (35 + 56 + 49) = 140
		3	Method to calculate time taken on all their main and minor roads	**1c**	**AFT** Route 1: (133) ÷ 70 × 60 (=114) (minutes) and (66) ÷ 40 × 60 (=99) (minutes) Route 2: (74) ÷ 40 × 60 (=111) (minutes) and (140) ÷ 70 × 60 (=120) (minutes) *May be seen as individual calculations for each section*
		3	Method to find total time including stops	**1d**	**AFT** Route 1: (114) + (99) + 80 = (293 minutes or 293/60) Route 2: (111) + (120) + 80 = (311 minutes or 311/60)
		15	Method to convert and add on time	**1e**	**AFT** Route 1: 10(am) + (293) minutes or 10(am) + (4hrs 53 mins) (or 4 53/60) Route 2: 10(am) + (311) minutes or 10(am) + (5 hrs 11 minutes) (5 11/60)
		15	Correct arrival time at office	**1f**	**CAO** Route 1: **2:53(pm) or 14:53** Route 2: **3.11(pm) or 15:11**

13 (Q20 On-screen)	**5**			**5CA**	**CAO** **£2029.44**
				3CA (SC)	**Special case – 3 marks if works out without compounding interest:** **(64950 x 0.04) x 3 = 7794 + 64950 = 72744 ÷ 36 = 2020.67**
		If answer incorrect revert to:			
		13	Method to find one 4% increase	**1a**	**CAO** 64950 × 1.04 (= 67548) OE
		13	Method to find 4% increase compounded over 3 years	**1b**	**AFT** 64950 × 1.04 × 1.04 × 1.04 OE
		13	Correct total loan amount	**1c**	**AFT** (£)73059(.92)
		2	Method to find monthly payment	**1d**	**AFT** (73059(.92)) ÷ 36
		2	Correct answer with correct units	**1e**	**CAO** 2029.44
14 (Q21 On-screen)	**5**			**5CA**	**CAO** **37.8 (litres)**
		If answer incorrect revert to:			
		20	Method to find number of strips	**1a**	**CAO** 240 ÷ 2.5 (= 96 strips)
		14	Method to find distance travelled in kilometres	**1b**	**AFT** (96) x 450 ÷ 1000 = 43.2 (km)
		14	Converting distance to miles using conversion factor	**1c**	**AFT** (43.2) ÷ 1.6 (= 27 miles)
		11	Method to calculate litres used from speed	**1d**	**AFT** (27) ÷ 5 × 7
		11	Correct answer	**1e**	**CAO** 37.8 (litres)

15 (Q22 On-screen)	**6**			**6CA**	**CAO** **(£)3595.44** ***(allow any answer between £3595 - £3596 for rounding)***
		If answer incorrect revert to:			
		16	Method to find area of any one rectangle or triangle	**1a**	method 183 × 125 or (183 – 140) × 67 or 0.5 × (125 – 67) × (183 – 140)
		16	Complete method to find total area	**1b**	method e.g. 140 × 125 + (183 – 140) × 67 + 0.5 × (125 – 67) × (183 – 140) OE
		16	Correct area	**1c**	**CAO** 21628 (m^2)
		11	Method to find weight	**1d**	**AFT** (21628) ÷ 4046.86 × 3.75 (= 20.04)
		11	Full method to find value	**1e**	**AFT** – method (20.04) × 179.40
		13	Correct answer	**1f**	**CAO** (£)3595.44 *(allow any answer between £3595 - £3596 for rounding)*
16 (Q23 On-screen)	**5**			**5CA**	**CAO** **No and** $\frac{102}{1000}$ or $\frac{1}{10}$ OE **OR** **No and 10 troughs needed**
		If answer incorrect revert to:			
		17	Identifying figures to use in formula	**1a**	**CAO** (38 ÷ 2) = 19(cm) and 180(cm) used
		17	Correct method for substitution of values into formula	**1b**	method 3.14 × 19 × 19 × 180 (= 204037.2) ÷ 2 (= 102018.6)
		17	Finds correct volume	**1c**	**AFT** (÷ 1000) = 102(.0186) (litres)
		8	Method to find fraction of 500 in trough or 1/5 of 1000 to compare	**1d**	method $\frac{102}{1000}$ or $\frac{1}{10}$ Or 1000 ÷ 10 = 100
		2	Correct decision with figures to compare	**1e**	**CAO** No and $\frac{102}{1000}$ or $\frac{1}{10}$ OE OR No and 10 troughs needed