DarTutors · IGCSE Mathematics 0580-style practice

Paper 3 Calculator (Core) – Mark scheme (maximum mark 80)

Abbreviations: M method mark · A accuracy mark (depends on the M mark) · B independent mark · FT follow through after an earlier error · oe or equivalent · isw ignore subsequent working. Award full marks for a correct answer unless the question says "show" or asks for working. Accept answers correct to 3 significant figures (angles to 1 d.p.) unless the question says otherwise; the unrounded value is given in brackets. Parts of this mark scheme have not yet been reviewed by a teacher: check them before use.

Q	Part	Answer	Mark	Partial marks / guidance
1		847	1	
2	(a)	805	2	M1 for 110 × 5 + 85 × 3
	(b)	50	2	M1 for (750 − 120 × 5) ÷ 3
	(c)(i)	90	2	M1 for 150 ÷ 5 × 3
	(c)(ii)	5 : 2	3	M1 for 90 × 5 (= 450) and 60 × 3 (= 180); M1 for 450 : 180 or equivalent; A1
	(d)	6.50	2	M1 for 5 × 1.3 or 5 + 0.3 × 5
	(e)	10	3	M1 for 3 − 2.70 (= 0.30); M1 for 0.30 ÷ 3 × 100
3	(a)(i)	10	2	M1 for 3 × 2 − (−4)
	(a)(ii)	8	3	M1 for 19 = 3m − 5; M1 for 3m = 24
	(b)	$7fg - g^3$	2	B1 for each term
	(c)	6h(3h − 2j)	2	B1 for partial factorisation, e.g. 3h(6h − 4j) or $6(3h^2 - 2hj)$
	(d)	(t − 15)/8	2	M1 for t − 15 = 8m
	(e)	9	3	M1 for 3p − 15; M1 for 2p = 18 or −2p = −18
4	(a)(i)	4968	2	M1 for 4 × 60 × 18 + 2 × 18 × 18
	(a)(ii)	19 440	2	M1 for 60 × 18 × 18
	(b)(i)	15 300 (15 268.1…)	2	M1 for $\pi \times 9^2 \times 60$
	(b)(ii)	4170 (4171.9…)	1	FT their (a)(ii) − their (b)(i)
	(b)(iii)	3390 (3392.9…)	2	M1 for π × 18 × 60 or 2 × π × 9 × 60
5	(a)(i)	95.8 (95.83…)	2	M1 for 120 sin 53°
	(a)(ii)	233°	1	
	(b)(i)	20.6° (20.55…)	2	M1 for tan FHA = 9/24
	(b)(ii)	17.9 (17.86…)	3	M2 for $\sqrt{(20^2 - 9^2)}$ or M1 for $20^2 = 9^2 + GA^2$
6	(a)(i)	Image at (3, −1), (5, −1), (5, −2), (3, −3)	1	
	(a)(ii)	Image at (6, 5), (8, 5), (8, 6), (6, 7)	2	B1 for translation by (3, k) or (k, 4)
	(a)(iii)	Image at (−3, −1), (−5, −1), (−5, −2), (−3, −3)	2	B1 for rotation 180° about another centre or rotation 90° about the origin
	(b)(i)	Reflection in the line x = −1	2	B1 for reflection
	(b)(ii)	Enlargement, scale factor 3, centre (6, 1)	3	B1 for each of enlargement, scale factor 3, centre (6, 1)
7	(a)(i)	1	1	
	(a)(ii)	15	1	
	(a)(iii)	10	1	
	(b)(i)	3	1	
	(b)(ii)	24	2	M1 for 4 ÷ 10 × 60 or 4 ÷ (1/6)

Q	Part	Answer	Mark	Partial marks / guidance
	(b)(iii)	6.67 (6⅔)	3	M1 for total distance 5 km and total time 45 min; M1 for 5 ÷ 45 × 60
	(c)	Horizontal line at 5 km from 45 to 105 min, then a straight line from (105, 5) to (115, 0)	2	B1 for each line
8	(a)	Frequencies for 6, 7, 8, 9, 10: 5, 3, 3, 0, 2	3	B2 for 4 correct, B1 for 2 or 3 correct
	(b)(i)	9	1	
	(b)(ii)	3	1	
	(b)(iii)	5	2	M1 for the 15th and 16th values identified
	(b)(iv)	4.8	3	M1 for Σfx (= 144) attempted; M1 for ÷ 30
	(c)(i)	3/30 = 1/10	1	
	(c)(ii)	0	1	
	(c)(iii)	17/30	1	
		Total	**80**	