Mathematics GCSE Calculator: Paper 1 Mark Scheme

Question Number	Marking Guidelines	Mark	Additional Information
1.(a)	44.3	A1	Or greater accuracy (44.319). Rounding must be correct for mark.
1.(b)	178000; **OR** 1.78×10^5;	A1	
2.(a)	**Any two from:** Categories overlap; No option for more than 4 hours; No time period given (in question);	C1+1	
2.(b)	Non-bias question stating time period; Non-overlapping options and inclusive of all hours;	B1 B1	Must be at least 3 answer boxes. If not then max mark 1.
3.	Obtain 66π; oe Multiply any value by 2611; Obtain 541378(.0956)(cm); State 5.41;	A1 M1 A1 A1	 Or greater accuracy (5.413780956)
4.	$\frac{1.1}{35}$ **OR** $\frac{1.7}{72}$ **OR** $\frac{4}{200}$; Obtain 0.0314(2857143) **OR** 0.0236(1111111) **OR** 0.02; State **C**;	M1 A1 C1	May be $\times\ 100$. Could be %.
5.(a)	1200 × 0.85; *K* ÷ 12; 255(g);	M1 M1 A1	Seen or implied. **OR** 1200 – (1200 × 0.15). Where *k* is any positive integer less than 1200.
5.(b)	11 × 4 × 3 (=132); (£)283.80;	M1 A1	Seen or implied.

5.(c)	Their **5.(b)** × 1.65; Correct evaluation;	M1	Or equivalent (eg. **5.(b)** × 165 ÷ 100). If **5.(b)** correct answer should be (£)468.27.
6.(a)	Fig. 3;	C1	
6.(b)	Fig. 1;	C1	
6.(c)(i)	2/twice;	C1	
6.(c)(ii)	(0, 0) / Origin;	C1	
6.(d)	Gradient of 3; *y*-intercept at -3;	B1 B1	
7.	$\frac{6\times10}{3}$; 20;	M1 A1	No marks for 20.5(0864921).
8.	$9t^2 + 3 = 39$; $t^2 = 4$; $t = -2$;	M1 M1 A1	M1 for obtaining $t^2 = 12$; SC: B2 if $t = -\sqrt{12}$ obtained;
9.	State $51 = 3(15 + b)$; oe Obtain *b* = 2; $15 = 3(k + 2)$; (First term =) 3;	M1 A1 M1 A1	Set up **any** equation, even if incorrect, linking 51 and 15, with 15 being added to *b* and multiplied by 3 in any order. Set up **any** equation linking 15 with an unknown being added to **their** *b* and multiplied by 3. Brackets must be correct for this mark. Correct answer with no or irrelevant working scores 1 mark out of 4.
10.(a)	Shows correct method of expansion to obtain answer.	B1	AG so inspect working carefully.
10.(b)	$(2x + 4)^2 = 4x^2 + 12x$; $4x^2 + 16x + 16 = 4x^2 + 12x$; $x = -4$; $y = -4$;	M1 M1 A1 A1	Substitute 2*x* + 4 into second equation. Expansion. Obtain correct *x*. Substitute *x* into either equation and obtain *y* = -4 only. If multiple *x* and *y* answers given A0A0.