Bounds

Mark Scheme 3

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Bounds
Booklet	Mark Scheme 3

Time Allowed: **27 minutes**

Score: **/22**

Percentage: **/100**

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1	**(a)**	(£) 2.37 or 2.371 to 2.372 www 2	**2**	**M** for 34.95 ÷ 1.17 implied by 29.87…or 29.9 or **SC1** for 2.77 or 2.78 or 2.775
	(b)	154 days 4 hours cao	**3**	**M1** for $4.07 \times 10^{12} \div (1.1 \times 10^{9})$ implied by figs 37 or 154. (….) **A1** for 3700 seen or 3.7×10^{3} seen or $154\frac{1}{6}$ oe or 154 rem 4
	(c) (i)	9.25	**1**	
	(ii)	Lower = 51.3375 final answer Upper = 52.8275 final answer	**1** **1**	After 0 scored **SC1** for answers reversed or 9.35 **and** 5.65 seen or 51.3375 **and** 52.8275 seen

2	**(a)**	**(i)** $2 \times 3 \times 3 \times 7$ oe	**2**	**M** for prime factors of 2,3,3,7 shown condone 1('s) shown as well for method only
		(ii) 18	**1**	
		(iii) 504	**2**	**M1** for other multiples of 504 or $2 \times 2 \times 2 \times 3 \times 3 \times 7$ oe shown If **(ii)** and **(iii)** both correct but reversed allow **SC1**
	(b)	3.028 or 3.029 cao	**4**	**B3** for 3.0289(85…) or **M1** for their 105/their 34 (their 105 in range 104 to 106 and their 34 in range 33 to 35) and **B1** for 104.5 or 34.5 or 34.499.. selected
	(c)	πr^2 their h = their V	**M1**	Where V is in range 540 to 560 and h is in range 11 to 13
		$(r^2 =) \dfrac{\text{their } V}{\pi \times \text{their } h}$	**M1**	Implies previous method (15.36 implies **M2**) If using 545 and 12.5 then 13.88 (leading to 3.73) If using 550 and 12 then 14.59 (leading to 3.82)
		Sq root	**M1**	Dep on **M2**, can be implied from answers
		Selects 555 or 554.99.. and 11.5	**B1**	Indep
		3.919 cao	**A1**	If trials then 5 or 0