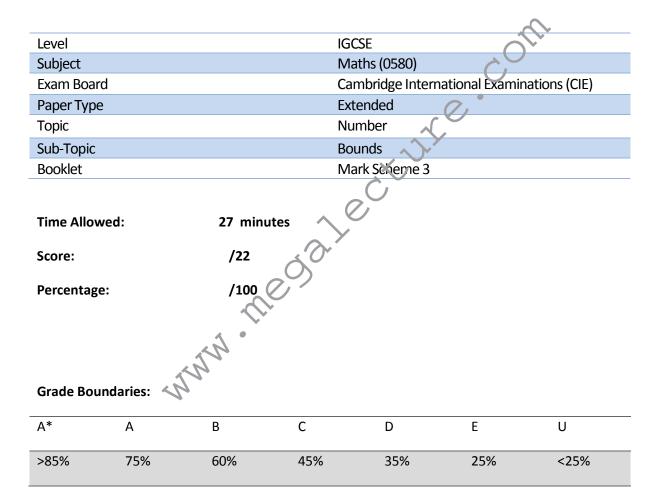


## **Bounds**

## Mark Scheme 3



1 <b>(a)</b>	(£) 2.37 or 2.371 to 2.372 www 2	2	<b>M</b> for 34.95 ÷ 1.17 implied by 29.87or 29.9 or <b>SC1</b> for 2.77 or 2.78 or 2.775
(b)	154 days 4 hours cao	3	<b>M1</b> for $4.07 \times 10^{12} \div (1.1 \times 10^9)$ implied by figs 37 or 154. () <b>A1</b> for 3700 seen or $3.7 \times 10^3$ 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	<b>M</b> for prime factors of 2,3,3,7 shown condone 1('s) shown as well for method only
	<b>(ii)</b> 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>(b)</b> 3.028 or 3.029 cao	4	<b>B3</b> for 3.0289(85) or <b>M1</b> for their 105/their 34 (their 105 in range 104 to 106 and their 34 in range 33 to 35) and <b>B1</b> for 104.5 or 34.5 or 34.499 selected
	(c) $\pi r^2$ their $h$ = their $V$	M1	Where $V$ is in range 540 to 560 and $h$ is in range 11 to 13
	$(r^2 =) \frac{\text{their } V}{\pi \times \text{their } h}$	M1	Implies previous method (15.36 implies <b>M2</b> ) 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	<b>M1</b>	Dep on M2, can be implied from answers
	Selects 555 or 554.99 and 11.5	<b>B</b> 1	Indep
	3.919 cao	A1	If trials then 5 or 0

www.youtube.com/megalecture Page 2 of 2