Level 4 TMA   Scientific Notation   Marking Scheme

Qs	Working	Mark
1)	$D = \dfrac{C}{\pi} = \dfrac{4.01 x 10^4}{\pi} = 12764.23km$ So r = 6382.11 = 6.38 x 10^{3}km	• 12764.23 • 6382.11 • 6.38 x 10^{3}km
2)	Half life = 4.5 x 10^9 So 1/8 left = 4.5 x 10^9 x 3 = 1.35 x 10^{10} years	• To know to multiply by 3 • 1.35 x 10^{10} years
3)	Speed of light = (8.0 x 10^5) x 372 = 2.976 x 10^8 m/s = 2.98 x 10^8 to 3 sig fig	• multiply by 372 • 2.976 x 10^8 m/s • 2.98 x 10^8
4)	Population = 250 x (5.06 x 10^6) = 1.265 x 10^9 = 1.27 x 10^9 to 3 sig fig	• Multiply by 250 • 1.265 x 10^9 • 1.27 x 10^9
5)	1hr x 60 x 60 = 3600sec D = S x T = (1.02 x 10^4) x 3600 D= 3.67 x 10^{4}m	• 1hr = 3600sec • (1.02 x 10^4) x 3600 • 3.67 x 10^{7}m
6)	$V = \dfrac{4}{3}\pi r^3 = \dfrac{4}{3} \times \pi \times 110^3 = 5.575 \times 10^6 m^3$ V = 5.58 x 10^6 to 3 sig fig Sphere Hemisphere	• $\dfrac{4}{3} \times \pi \times 110^3$ • 5.575×10^6 • 5.58×10^6 • 2.79 x 10^6
		Total Marks 18