Question Number	Scheme	Marks
3	$V = 5h^3 \Rightarrow \dfrac{\mathrm{d}V}{\mathrm{d}h} = 15h^2$ or $\dfrac{\mathrm{d}h}{\mathrm{d}V} = \dfrac{1}{15}\left(\dfrac{V}{5}\right)^{-\frac{2}{3}}$	M1A1
	$\dfrac{\mathrm{d}V}{\mathrm{d}t} = 24$ or $\dfrac{\mathrm{d}V}{\mathrm{d}t} = -24$	B1
	$800 = 5h^3 \Rightarrow h^3 = 160,\ h = \sqrt[3]{160},\ h = 4\sqrt{10},\ h = 5.4288...$	B1
	$\dfrac{\mathrm{d}h}{\mathrm{d}t} = \dfrac{\mathrm{d}h}{\mathrm{d}V} \times \dfrac{\mathrm{d}V}{\mathrm{d}t}, = \dfrac{24}{15\left(\sqrt[3]{160}\right)^2}$ $\left(= \dfrac{24}{442.0...}\right)$	M1,A1ft
	$\dfrac{\mathrm{d}h}{\mathrm{d}t} = 0.0543...$	
	(Rate of decrease =) 0.054 cm/s	A1cso [7]

	Intermediate decimal answers should be at least 3 sf.
M1	Differentiate V wrt h or h wrt V
A1	Correct expression for $\dfrac{\mathrm{d}V}{\mathrm{d}h}$ or $\dfrac{\mathrm{d}h}{\mathrm{d}V}$ These 2 marks can be given if $15h^2$ is seen used **correctly** in their chain rule.
B1	$\dfrac{\mathrm{d}V}{\mathrm{d}t} = 24$ or -24 seen explicitly or used.
B1	Correct value for h^3 or h when $V = 800$, seen explicitly or used. Award for any of $h^3 = 160,\ h = \sqrt[3]{160},\ h = 4\sqrt{10},\ h = 5.42...$ min 3 sf OR if $\dfrac{\mathrm{d}h}{\mathrm{d}V}$ was found, use of $V = 800$
M1	Quote a correct chain rule for solving the problem. Terms can be in any (correct) order
A1ft	Correct numbers in the chain rule, follow through previous results.
A1cso	Correct final answer must be positive.