Question	Answer	Marks	Partial marks
12	Correct use of $x^2h = 5$ to find an expression that can be used to eliminate h	**M2**	**M1** for $x^2h = 5$ soi
	Surface area: $x^2 + 4x\left(\frac{5}{x^2}\right)$ oe	**B1**	
	Derivative of the surface area: $2x - 20x^{-2}$ oe	**B1**	**FT** *their* surface area of form $ax^2 + \frac{b}{x}$
	Equates *their* $2x - 20x^{-2}$ to 0 and solves to find a value of x	**M1**	**FT** *their* derivative of form $ax + \frac{b}{x^2}$ oe
	$x = 2.15$ or 2.154[…] $h = 1.08$ or 1.077[…] nfww	**A1**	**dep** on all previous marks awarded
	Alternative		
	Correct use of $x^2h = 5$ to find an expression that can be used to eliminate x	**(M2)**	**M1** for $x^2h = 5$ soi
	Surface area: $\left(\sqrt{\frac{5}{h}}\right)^2 + 4h \times \sqrt{\frac{5}{h}}$ oe	**(B1)**	
	Derivative of the surface area: $4\sqrt{5} \times \frac{1}{2}h^{-\frac{1}{2}} - \frac{5}{h^2}$ oe	**(B1)**	**FT** *their* surface area of form $\frac{a}{h} + b\sqrt{h}$
	Equates *their* $4\sqrt{5} \times \frac{1}{2}h^{-\frac{1}{2}} - \frac{5}{h^2}$ to 0 and solves to find a value of h	**(M1)**	**FT** *their* derivative of form $\frac{a}{\sqrt{h}} + \frac{b}{h^2}$ oe
	$h = 1.08$ or 1.077[…] $x = 2.15$ or 2.154[…] nfww	**(A1)**	**dep** on all previous marks awarded

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