20	$\frac{1}{3}\times\pi\times r^2\times 2h\left(=\frac{2}{3}\pi r^2h\right)$ **OR** $\frac{1}{3}\times\pi\times(0.5r)^2\times h\left(=\frac{1}{12}\pi r^2h\right)$			M1	for finding the volume of the small or large cone
	$"\frac{2}{3}\pi r^2h" - "\frac{1}{12}\pi r^2h" \left(=\frac{7}{12}\pi r^2h\right)$			M1	(dep) method to find the volume of the frustum (condone missing brackets)
	$"\frac{2}{3}\pi r^2h" - "\frac{1}{12}\pi r^2h" = \frac{4\pi r^3}{3}$			M1	equating volume of frustum and sphere (must be correct including brackets)
	e.g. $\frac{7}{12}\pi r^2h = \frac{4\pi r^3}{3}$			M1	for a correct simplified formula (1 term on each side)
		$\frac{7}{16}h$	5	A1	accept $0.4375h$
					Total 5 marks

21	$CB = 13\sin 40$ (= 8.3562...)			M1
	$\frac{1}{2}\times 6\times "8.35..."\times \sin ACB = 22$			M1
	Acute version of $ACB = \sin^{-1}\left(\frac{22}{\frac{1}{2}\times 6\times "8.35..."}\right)$ (= 61.35…)			M1
	ACB = 180 – "61.353…" (= 118.647...)			M1
	$AB^2 = 6^2 + "8.35..."^2 - 2\times 6\times "8.35..."\times \cos "118.64"$ (= 153.98...)			M1
		12.4	6	A1 accept 12.3 – 12.5
				Total 6 marks