12	(a)	$\tan 20 = \frac{100}{d}$ oe or $\tan(90-20) = \frac{d}{100}$ oe or $\frac{d}{\sin(90-20)} = \frac{100}{\sin 20}$ oe		3	M1
		$(d =) \frac{100}{\tan 20}$ (= 274.747…) or $(d =) 100 \times \tan(90-20)$ (= 274.747…) or $(d =) \frac{100}{\sin 20} \times \sin(90-20)$ (= 274.747…)			M1
		Correct answer scores full marks (unless from obvious incorrect working)	275		A1 awrt 275
	(b)	$\tan 25 = \frac{100+h}{275}$ oe or $\tan 25 = \frac{y}{275}$ oe or $275 \times \tan 25$ (= 128....) or $\tan(90-25) = \frac{275}{100+h}$ oe or $\tan(90-25) = \frac{275}{y}$ oe or $\frac{100+h}{\sin 25} = \frac{275}{\sin(90-25)}$ or 128.1 – 128.2 (y is the height of cliff and radio mast)		3	M1 ft part (a) Allow $(hyp =) \sqrt{100^2 + 275^2}$ $(= \sqrt{85486.321} = 292.380)$ or $(hyp =) \frac{100}{\sin 20} \times \sin 90$ (= 292.380)
		$(h =) 275 \times \tan 25 - 100$ = 28.1169... or $(h =) \frac{275}{\tan\ 90-25} - 100$ (= 28.1169...) or $(h =) \frac{275}{\sin(90-25)} \times \sin 25 - 100$ (= 28.1169...)			M1 ft part (a) $(h =) \frac{"292.380"}{\sin(90-25)} \times \sin(25-20)$ (= 28.1169...)
		Correct answer scores full marks (unless from obvious incorrect working)	28.1		A1 Accept answers in the range 28 – 28.2
					Total 5 marks