2	**(a)**		eg $1 > -2$, but $1^2 < (-2)^2$ as $1 < 4$	**B1** **[1]**	**2.1**	Any correct counterexample, and contradiction identified	Initial inequality soi and then contradiction eg $-3 > -4$ but $9 < 16$ (or $9 \not> 16$)
2	**(b)**	**(i)**	eg $\sin 150^\circ = 0.5$ as well	**B1** **[1]**	**2.3**	Any correct statement	Identifies that $\sin x = 0.5$ could give values of x other than 30° Either specific example or general statement eg 'many to one' function
2	**(b)**	**(ii)**	$\sin x^\circ = 0.5 \Leftarrow x^\circ = 30^\circ$	**B1** **[1]**	**2.5**	Any correct relationship	If attempting to write general solution then must be fully correct eg $x = 30^\circ + 360n^\circ$, $x = 150^\circ + 360n^\circ$ Condone $\leftarrow$ instead of $\Leftarrow$
2	**(c)**		$(4n) + (4n + 4) + (4n + 8) + (4n + 12)$, where n is an integer	**B1***	**2.1**	Four consecutive multiples of 4 written correctly in terms of n, or any other variable	Allow BOD if n not explicitly stated to be an integer Sufficient to just list the 4 terms, rather than as a sum Not necessarily starting on $4n$ Could also define k as a multiple of 4 and then have k, $k + 4$ etc
			$= 16n + 24$ $= 8(2n + 3)$	**M1** **dep***	**2.1**	Correctly sum terms, and correctly take out common factor of 8	Or sum and then consider each term separately Could be a different factor if using k

Question	Answer	Marks	AO	Guidance	
	$2n+3$ is an integer, so $8(2n + 3)$ is a multiple of 8	**A1** **[3]**	**2.4**	Conclude appropriately	Allow BOD if $2n + 3$ not explicitly stated to be an integer If using k... expect $8(0.5k + 3)$ then justify $0.5k$ as an integer, or $4(k + 6)$ then justify $k + 6$ is a multiple of 2