

Question number	Answer	Notes	Marks
7 (a)	any three from: paper / pen / pencil; protractor; ruler / straight edge; light source (& power supply);  (optical) pins;	allow cork board  ignore unqualified 'light' allow needles	3
(b) (i)	line drawn at P at $90^\circ$ to the flat surface;	judge by eye	1
(ii)	$41^\circ$ ; $21^\circ$ ;	tolerance $\pm 3^\circ$ no ECF	2
(iii)	change of medium / eq;  change in speed / wavelength;	allow change of refractive index / (optical) density ignore changes direction  reject second mark if contradiction seen	2