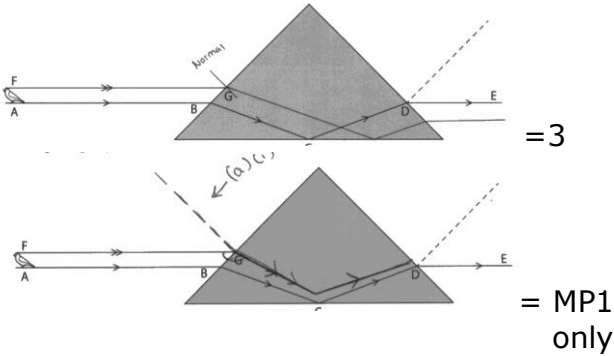


Question number	Answer	Notes	Marks
11 (a)	i normal drawn at G ;	by eye	1
	ii value for G ; (45) value for D; (45)	tolerance $\pm 2^\circ$	2
b	ray has been reflected; totally internally; because angle of incidence > critical angle;	allow 42 or 43°	3
c	correct refraction at G downwards; TIR on bottom surface; emergent ray parallel to and below DE;		3



Total 10 marks