Question Number	Scheme	Marks
5(i)	**R = F + G**	
	$R^2 = 8^2 + 10^2 - 2\times 8\times 10\cos 120^\circ$ oe (244) **OR:** $R^2 = 8^2 + 10^2 + 2\times 8\times 10\cos 60^\circ$ **OR**: $R^2 = (8\sin 60)^2 + (10 + 8\cos 60^\circ)^2$ **OR**: $R^2 = (10\sin 60)^2 + (8 + 10\cos 60^\circ)^2$	M1A1
	$R = \sqrt{244}$=15.620499... N	A1
5(ii)	$\frac{\sin\alpha}{8} = \frac{\sin 120^\circ}{\sqrt{244}}$ (allow sin60°) **OR** $\frac{\sin\beta}{10} = \frac{\sin 120^\circ}{\sqrt{244}}$ (allow sin60°) **OR** $8^2 = (\sqrt{244})^2 + 10^2 - 2\times\sqrt{244}\times 10\cos\alpha$ **OR** $10^2 = (\sqrt{244})^2 + 8^2 - 2\times\sqrt{244}\times 8\cos\beta$ **OR** $\tan\alpha = \frac{8\sin 60}{10 + 8\cos 60^\circ}$ or $\sin\alpha = \frac{8\sin 60}{\sqrt{244}}$ or $\cos\alpha = \frac{10 + 8\cos 60^\circ}{\sqrt{244}}$ (or reciprocal of tan) **OR** $\tan\beta = \frac{10\sin 60}{8 + 10\cos 60^\circ}$ or $\sin\beta = \frac{10\sin 60}{\sqrt{244}}$ or $\cos\beta = \frac{8 + 10\cos 60^\circ}{\sqrt{244}}$ (or reciprocal of tan)	M1A1
	$\alpha = 26.(3..)^\circ$ **OR** $\beta = 33.67\ldots^\circ$ (accept 34)	A1
	Bearing is 206° (nearest degree)	A1
		(7)
	Notes for question 5	
5(i)	M1 for an equation in *R* **only** (M0 for $R^2 = 8^2 + 10^2 - 2\times 8\times 10\cos 60^\circ$ or if they clearly misquote the cosine rule) For the second alternative, condone sin/cos confusion and sign errors	
	A1 for a correct equation	
	A1 for $\sqrt{244}$ or 16 or better (N)	
5(ii)	M1 for an equation in a relevant angle **only**, using their *R* value. For the SOHCAHTOA alternatives, allow sin/cos confusion and sign errors	
	A1 for a correct equation	
	A1 for a relevant angle which is correct to the nearest degree	
	A1 cao	