

The angles  $\alpha$  and  $\beta$  lie between  $0^\circ$  and  $180^\circ$  and are such that

$$\tan(\alpha + \beta) = 2 \quad \text{and} \quad \tan \alpha = 3 \tan \beta.$$

Find the possible values of  $\alpha$  and  $\beta$ .

[6]