8 **(a)** It is given that β is an angle between 90° and 180° such that $\sin\beta = a$.

Express $\tan^2\beta - 3\sin\beta\cos\beta$ in terms of a. [3]

(b) Solve the equation $\sin^2\theta + 2\cos^2\theta = 4\sin\theta + 3$ for $0° < \theta < 360°$. [5]