

- 3**      **(i)** Show that the equation  $\sin^2 \theta + 3 \sin \theta \cos \theta = 4 \cos^2 \theta$  can be written as a quadratic equation in  $\tan \theta$ . [2]
- (ii)** Hence, or otherwise, solve the equation in part **(i)** for  $0^\circ \leq \theta \leq 180^\circ$ . [3]