

**3**      **(i)** Show that the equation  $\sin \theta + \cos \theta = 2(\sin \theta - \cos \theta)$  can be expressed as  $\tan \theta = 3$ . [2]

**(ii)** Hence solve the equation  $\sin \theta + \cos \theta = 2(\sin \theta - \cos \theta)$ , for  $0^\circ \leq \theta \leq 360^\circ$ . [2]