

A particle is projected with speed  $V \text{ m s}^{-1}$  at an angle of  $\theta^\circ$  above the horizontal. At the instant 4 s after projection the speed of the particle is  $16 \text{ m s}^{-1}$  and its direction of motion is  $30^\circ$  above the horizontal. Find  $V$  and  $\theta$ . [5]