

7 A particle  $P$  moves with constant acceleration  $(-4\mathbf{i} + 2\mathbf{j})\text{ms}^{-2}$ . At time  $t = 0$  seconds,  $P$  is moving with velocity  $(7\mathbf{i} + 6\mathbf{j})\text{ms}^{-1}$ .

(a) Determine the speed of  $P$  when  $t = 3$ . [4]

(b) Determine the change in displacement of  $P$  between  $t = 0$  and  $t = 3$ . [2]