

- 4 A man stands on the edge of a cliff. He throws a stone upwards with a velocity of  $19.6 \text{ m s}^{-1}$  at time  $t = 0$ . The stone reaches the top of its trajectory after 2.00 s and then falls towards the bottom of the cliff. Air resistance is negligible.

Which row shows the correct velocity  $v$  and acceleration  $a$  of the stone at different times?

	$t/\text{s}$	$v/\text{ms}^{-1}$	$a/\text{ms}^{-2}$
A	1.00	9.81	9.81
B	2.00	0	0
C	3.00	9.81	-9.81
D	5.00	-29.4	-9.81

- 5 An object is projected with velocity  $40 \text{ m s}^{-1}$  at an angle of  $45^\circ$  to the horizontal. Air resistance is