

- 7 A boy throws a ball vertically upwards. It rises to a maximum height, where it is momentarily at rest, and then falls back to his hands.

Which row gives the acceleration of the ball at various stages in its motion? (Take vertically upwards as positive. Ignore air resistance.)

	rising	at maximum height	falling
<b>A</b>	$-9.81 \text{ ms}^{-2}$	0	$+9.81 \text{ ms}^{-2}$
<b>B</b>	$-9.81 \text{ ms}^{-2}$	$-9.81 \text{ ms}^{-2}$	$-9.81 \text{ ms}^{-2}$
<b>C</b>	$+9.81 \text{ ms}^{-2}$	$+9.81 \text{ ms}^{-2}$	$+9.81 \text{ ms}^{-2}$
<b>D</b>	$+9.81 \text{ ms}^{-2}$	0	$-9.81 \text{ ms}^{-2}$

- 8 The curved line PQR is the velocity-time graph for a car starting from rest