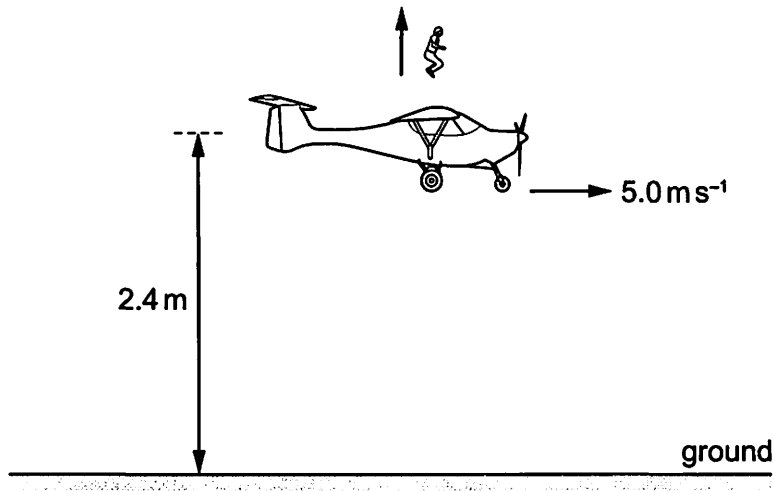**4** A toy aeroplane is flying above the ground at a constant horizontal velocity of $5.0\,\mathrm{m\,s^{-1}}$ when the toy pilot is ejected. The aeroplane propels the toy pilot upward from a height of 2.4 m above the ground so that the vertical component of his speed is initially $3.0\,\mathrm{m\,s^{-1}}$.

$5.0\,\mathrm{m\,s^{-1}}$

2.4 m

ground

With what speed does the toy pilot hit the ground? Ignore the effects of air resistance.

A $3.7\,\mathrm{m\,s^{-1}}$ **B** $5.8\,\mathrm{m\,s^{-1}}$ **C** $7.5\,\mathrm{m\,s^{-1}}$ **D** $9.0\,\mathrm{m\,s^{-1}}$