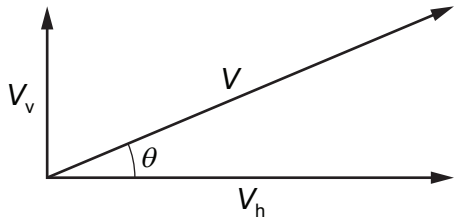
3 A particle has velocity V at an angle θ to the horizontal.

The components of the particle's velocity are V_v upwards in the vertical direction and V_h to the right in the horizontal direction, as shown.



What are expressions for the magnitude of V and for the angle θ?

	magnitude of V	θ
A	$\sqrt{(V_v^2 + V_h^2)}$	$\tan^{-1}\left(\frac{V_h}{V_v}\right)$
B	$\sqrt{(V_v^2 + V_h^2)}$	$\tan^{-1}\left(\frac{V_v}{V_h}\right)$
C	$\sqrt{(V_v^2 - V_h^2)}$	$\tan^{-1}\left(\frac{V_h}{V_v}\right)$
D	$\sqrt{(V_v^2 - V_h^2)}$	$\tan^{-1}\left(\frac{V_v}{V_h}\right)$