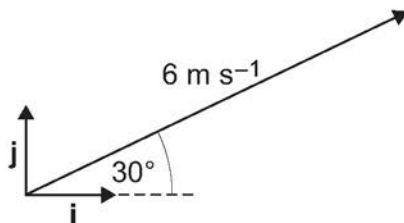


12

A particle has a speed of  $6 \text{ m s}^{-1}$  in a direction relative to unit vectors  $\mathbf{i}$  and  $\mathbf{j}$  as shown in the diagram below.



The velocity of this particle can be expressed as a vector  $\begin{bmatrix} v_1 \\ v_2 \end{bmatrix} \text{ m s}^{-1}$

Find the correct expression for  $v_2$

Circle your answer.

[1 mark]

$$v_2 = 6 \cos 30^\circ$$

$$v_2 = 6 \sin 30^\circ$$

$$v_2 = -6 \sin 30^\circ$$

$$v_2 = -6 \cos 30^\circ$$