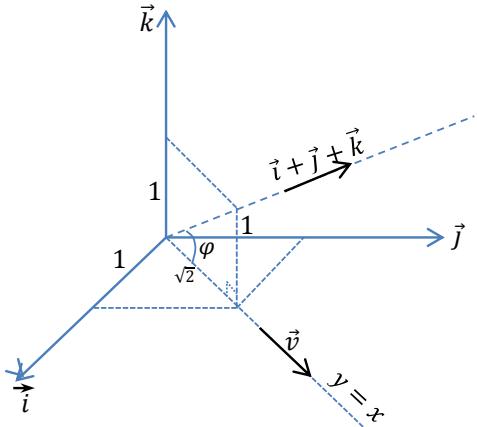


See figure to the left.



$$\varphi = \arctg \left( \frac{1}{\sqrt{2}} \right) \approx 35.26^\circ$$

$$\begin{aligned} v_{i+j+k} &= v * \cos(\varphi) = v * \frac{1}{\sqrt{1 + \tan^2 \varphi}} = v * \sqrt{\frac{2}{3}} \\ &= 10 \text{ [m/s]} * 0.82 = 8.2 \text{ [m/s]} \end{aligned}$$

**Answer:**  $v_{i+j+k} = 8.2 \left[ \frac{m}{s} \right]$ .