

$$X = \left(\frac{1}{2}, \frac{3}{2}, \frac{5}{2}\right)$$

and its norm is as;

$$|X| = \sqrt{\left(\frac{1}{2}\right)^2 + \left(\frac{3}{2}\right)^2 + \left(\frac{5}{2}\right)^2} = \sqrt{\frac{1}{4} + \frac{9}{4} + \frac{25}{4}}$$

$$|X| = \frac{1}{2}\sqrt{35}$$

\therefore required unit vector is;

$$\hat{X} = \frac{X}{|X|} = \frac{\left(\frac{1}{2}, \frac{3}{2}, \frac{5}{2}\right)}{\frac{1}{2}\sqrt{35}} = \left(\frac{\frac{1}{2}}{\frac{1}{2}\sqrt{35}}, \frac{\frac{3}{2}}{\frac{1}{2}\sqrt{35}}, \frac{\frac{5}{2}}{\frac{1}{2}\sqrt{35}}\right)$$

$$\Rightarrow \hat{X} = \left(\frac{1}{\sqrt{35}}, \frac{3}{\sqrt{35}}, \frac{5}{\sqrt{35}}\right)$$