

**Answer on Question #83886 Physics / Other**

Calculate the unit vector in the direction of vector  $\mathbf{A}(4,3) = 4\mathbf{i} + 3\mathbf{j}$ .

**Solution:**

The unit vector in the direction of vector  $\mathbf{A}$

$$\boldsymbol{\tau} = \frac{\mathbf{A}}{|\mathbf{A}|} = \frac{4\mathbf{i} + 3\mathbf{j}}{\sqrt{4^2 + 3^2}} = \frac{4\mathbf{i} + 3\mathbf{j}}{5} = \frac{4}{5}\mathbf{i} + \frac{3}{5}\mathbf{j}$$

**Answer:**  $\frac{4}{5}\mathbf{i} + \frac{3}{5}\mathbf{j}$

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