The vector $8\,\mathbf{i} - \mathbf{j} + 5\,\mathbf{k}$ has length
$|8\,\mathbf{i} - \mathbf{j} + 5\,\mathbf{k}| = \sqrt{8^2 + (-1)^2 + 5^2} = \sqrt{90} = 3\sqrt{10}$, so by Equation 4 the unit vector with the same direction is
$\frac{1}{3\sqrt{10}}(8\,\mathbf{i} - \mathbf{j} + 5\,\mathbf{k}) = \frac{4\sqrt{10}}{15}\,\mathbf{i} - \frac{\sqrt{10}}{30}\,\mathbf{j} + \frac{\sqrt{10}}{6}\,\mathbf{k}$.