

Zadatak 26. Odredi jedinični vektor okomit na vektor \vec{AB} ako je $A(-5, 3)$, $B(3, -3)$.

Rješenje.

$$\begin{aligned}\vec{AB} &= (3 + 5)\vec{i} + (-3 - 3)\vec{j} = 8\vec{i} - 6\vec{j} \\ \vec{e} \cdot \vec{AB} &= 0 \\ 8e_x - 6e_y &= 0 \\ 8e_x &= 6e_y \\ e_x &= \frac{3}{4}e_y \\ |\vec{e}| = 1 &\implies \sqrt{e_x^2 + e_y^2} = 1 \\ e_x^2 + e_y^2 &= 1 \\ \frac{9}{16}e_y^2 + e_y^2 &= 1 \\ \frac{25}{16}e_y^2 &= 1 / \cdot \frac{16}{25} \\ e_y^2 &= \frac{16}{25} \\ e_y &= \pm \frac{4}{5} \\ e_x &= \pm \frac{3}{5} \\ \vec{e} &= \pm \left(\frac{3}{5}\vec{i} + \frac{4}{5}\vec{j} \right)\end{aligned}$$