

**Zadatak 15.** Odredi vektor  $\vec{v}$  kolinearan s vektorom  $\vec{AB}$ , gdje je  $A(2, -1)$ ,  $B(-1, 3)$  ako je  $|\vec{v}| = 20$ .

*Rješenje.*

$$\vec{v} = k\vec{AB},$$

$$|\vec{v}| = 20,$$

$$A(2, -1), B(-1, 3)$$

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$$\vec{AB} = (2 - 1)\vec{i} + (3 + 1)\vec{j} = -3\vec{i} + 4\vec{j}$$

$$|\vec{AB}| = \sqrt{9 + 16} = 5$$

$$\vec{e} = \frac{1}{|\vec{AB}|}$$

$$\vec{AB} = \frac{1}{5}(-3\vec{i} + 4\vec{j}) = -\frac{3}{5}\vec{i} + \frac{4}{5}\vec{j}$$

$$\vec{v} = \pm|\vec{v}| \cdot \vec{e} = \pm 20 \left( -\frac{3}{5}\vec{i} + \frac{4}{5}\vec{j} \right)$$

$$\vec{v}_1 = -12\vec{i} + 16\vec{j}$$

$$\vec{v}_2 = 12\vec{i} - 16\vec{j}$$