

Rješenja zadataka 7.5

Zadatak 1. Dane su točke $A(6, 1)$, $B(-2, -5)$, $C(1, -1)$, $D(-1, 1)$. Odredi vektore \vec{AB} , \vec{AC} , \vec{AD} , \vec{BC} , \vec{BD} i izračunaj njihove duljine.

Rješenje.

$$A(6, 1),$$

$$B(-2, -5),$$

$$C(1, -1),$$

$$D(-1, 1)$$

$$\vec{AB}, \vec{AC}, \vec{AD}, \vec{BC}, \vec{BD} = ?$$

$$|\vec{AB}|, |\vec{AC}|, |\vec{AD}|, |\vec{BC}|, |\vec{BD}| = ?$$

$$\vec{AB} = (-2 - 6)\vec{i} + (-5 - 1)\vec{j} = -8\vec{i} - 6\vec{j},$$

$$|\vec{AB}| = \sqrt{(-8)^2 + (-6)^2} = \sqrt{100} = 10;$$

$$\vec{AC} = (1 - 6)\vec{i} + (-1 - 1)\vec{j} = -5\vec{i} - 2\vec{j},$$

$$|\vec{AC}| = \sqrt{(-5)^2 + (-2)^2} = \sqrt{29};$$

$$\vec{AD} = (-1 - 6)\vec{i} + (1 - 1)\vec{j} = -7\vec{i}$$

$$|\vec{AD}| = \sqrt{(-7)^2} = 7$$

$$\vec{BC} = (1 - (-2))\vec{i} + (-1 - (-5))\vec{j} = 3\vec{i} + 4\vec{j}$$

$$|\vec{BC}| = \sqrt{3^2 + 4^2} = \sqrt{25} = 5$$

$$\vec{BD} = (-1 - (-2))\vec{i} + (1 - (-5))\vec{j} = \vec{i} + 6\vec{j}$$

$$|\vec{BD}| = \sqrt{1 + 6^2} = \sqrt{37}$$