

Zadatak 5. Točke $A(0, 3)$ i $B(2, 2)$ dva su vrha paralelograma $ABCD$, a točka $S(3, 4)$ sjecište je njegovih dijagonala. Odredi koordinate vrhova C i D .

Rješenje.

$$A(0, 3),$$

$$B(2, 2),$$

$$S(3, 4),$$

$$C(x_C, y_C),$$

$$D(x_D, y_D),$$

$$C, D = ?$$

$$\overrightarrow{AS} = \overrightarrow{SC}$$

$$(3 - 0)\vec{i} + (4 - 3)\vec{j} = (x_C - 3)\vec{i} + (y_C - 4)\vec{j}$$

$$3\vec{i} + 1\vec{j} = (x_C - 3)\vec{i} + (y_C - 4)\vec{j}$$

$$3 = x_C - 3 \implies x_C = 6$$

$$1 = y_C - 4 \implies y_C = 5$$

$$\implies C(6, 5)$$

$$\overrightarrow{BS} = \overrightarrow{SD}$$

$$(3 - 2)\vec{i} + (4 - 2)\vec{j} = (x_D - 3)\vec{i} + (y_D - 4)\vec{j}$$

$$\vec{i} + 2\vec{j} = (x_D - 3)\vec{i} + (y_D - 4)\vec{j}$$

$$1 = x_D - 3 \implies x_D = 4$$

$$2 = y_D - 4 \implies y_D = 6$$

$$\implies D(4, 6)$$