

**Zadatak 11.** Točke  $A(-4, -3)$  i  $B(2, 0)$  vrhovi su na osnovici trapeza, točke  $M(-3, 0)$  i  $N(1, 2)$  polovišta su njegovih krakova  $\overline{AD}$ , odnosno  $\overline{BC}$ . Odredi vektor  $\overrightarrow{CD}$ .

*Rješenje.*

$$A(-4, -3),$$

$$B(2, 0),$$

$$M(-3, 0),$$

$$N(1, 2),$$

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$$\overrightarrow{CD} = ?$$

$$\overrightarrow{AM} = (-3 + 4)\vec{i} + (0 + 3)\vec{j} = \vec{i} + 3\vec{j}$$

$$\overrightarrow{AD} = 2\overrightarrow{AM} = 2\vec{i} + 6\vec{j}$$

$$x + 4 = 2 \implies x = -2$$

$$y + 3 = 6 \implies y = 3$$

$$D(-2, 3)$$

$$\overrightarrow{BC} = 2\overrightarrow{BM}$$

$$\overrightarrow{BM} = (1 - 2)\vec{i} + (2 - 0)\vec{j} = -\vec{i} + 2\vec{j}$$

$$\overrightarrow{BC} = -2\vec{i} + 4\vec{j}$$

$$\overrightarrow{BC} = (x - 2)\vec{i} + (y - 0)\vec{j} = -2\vec{i} + 4\vec{j}$$

$$x - 2 = -2 \implies x = 0$$

$$y = 4$$

$$C(0, 4)$$