

Zadatak 5. Dužine \overline{AD} , \overline{BE} i \overline{CF} težišnice su trokuta ABC . Izrazi vektore \overrightarrow{AD} , \overrightarrow{BE} i \overrightarrow{CF} kao linearnu kombinaciju vektora $\overrightarrow{AB} = \vec{p}$ i $\overrightarrow{AC} = \vec{q}$.

Rješenje.

$$\begin{aligned}\overrightarrow{BC} &= \vec{q} - \vec{p} \\ \overrightarrow{AD} &= \vec{p} + \frac{1}{2}\overrightarrow{BC} = \vec{p} + \frac{1}{2}(\vec{q} - \vec{p}) = \frac{1}{2}\vec{p} + \frac{1}{2}\vec{q}; \\ \overrightarrow{BE} &= \overrightarrow{EA} + \overrightarrow{AB} = -\frac{1}{2}\vec{q} + \vec{p} = -\vec{p} + \frac{1}{2}\vec{q}; \\ \overrightarrow{CF} &= \overrightarrow{CA} + \overrightarrow{AF} = -\vec{q} + \frac{1}{2}\vec{p} = \frac{1}{2}\vec{p} - \vec{q}.\end{aligned}$$

