

M-4 Ako je $\frac{x+2}{3+2i} - \frac{y+3}{3-2i} = 1$, ($x, y \in \mathbb{R}$), onda vrijednost izraza $5x - y$ iznosi:

- A . -5 B . -6 C . $\frac{16}{3}$ D . $-\frac{16}{3}$ E . 6

$$\frac{x+2}{3+2i} - \frac{y+3}{3-2i} = 1 / \cdot (3+2i)(3-2i)$$

$$(x+2)(3-2i) - (y+3)(3+2i) = (3+2i)(3-2i)$$

$$3x - 2xi + 6 - 4i - (3y + 2yi + 9 + 6i) = 3^2 - 2^2 i^2$$

$$3x - 2xi + 6 - 4i - 3y - 2yi - 9 - 6i = 9 - 4 \cdot (-1)$$

$$3x - 3y - 3 + (-2x - 4 - 2y - 6)i = 9 + 4$$

$$\underbrace{3x - 3y - 3}_{\downarrow} + \underbrace{(-2x - 2y - 10)}_{\downarrow} i = 13 + 0i$$

$$3x - 3y - 3 = 13$$

$$-2x - 2y - 10 = 0$$

Riješimo taj sustav

$$3x - 3y = 16 / \cdot 2$$

$$3x - 3y = 16$$

$$\underline{-2x - 2y = 10 / \cdot 3}$$

$$3x - 3\left(-\frac{31}{6}\right) = 16$$

$$\left. \begin{array}{l} 6x - 6y = 32 \\ -6x - 6y = 30 \end{array} \right\} +$$

$$3x + \frac{31}{2} = 16$$

$$-12y = 62 / : (-12)$$

$$3x = -\frac{31}{2} + 16$$

$$y = -\frac{31}{6}$$

$$3x = \frac{1}{2} / : 3$$

$$x = \frac{1}{6}$$

$$5x - y = 5 \cdot \frac{1}{6} - \left(-\frac{31}{6}\right) = \frac{5}{6} + \frac{31}{6} = \frac{36}{6} = 6 \quad (\text{rješenje pod E})$$