

7. Odredi sve cele brojeve x i y tako da je: $x^2 - xy + 2x - 3y = 6$

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$$x^2 + 2x - xy - 3y = 6$$

$$x \cdot (x + 2) - y \cdot (x + 3) = 6$$

$$y \cdot (x + 3) = x \cdot (x + 2) - 6$$

$$y = \frac{x(x + 2) - 6}{(x + 3)}$$

$$y = \frac{x^2 + 2x - 6}{x + 3}$$

$$y = \frac{x^2 + 2x + 4x + 9 - 4x - 9 - 6}{x + 3}$$

$$y = \frac{x^2 + 6x + 9 - 4x - 15}{x + 3}$$

$$y = \frac{(x + 3)^2 - 4x - 15}{x + 3}$$

$$y = \frac{(x + 3)^2}{x + 3} - \frac{4x + 15}{x + 3}$$

$$y = x + 3 - \frac{4x + 15}{x + 3}$$

Da bi y bio ceo broj onda i $\frac{4x + 15}{x + 3} = a$, mora da bude ceo broj.

$$\frac{4x + 15}{x + 3} = a$$

$$a = \frac{4x + 12 + 3}{x + 3}$$

$$a = \frac{4(x + 3) + 3}{x + 3}$$

$$a = 4 + \frac{3}{x + 3},$$

Da bi a bio ceo broj onda i $\frac{3}{x + 3}$, mora da bude ceo broj.

$$x + 3 = -3, \quad x = -6 \text{ i } y = 2$$

$$x + 3 = 3, \quad x = 0 \text{ i } y = -2$$

$$x + 3 = -1, \quad x = -4 \text{ i } y = -2$$

$$x + 3 = 1, \quad x = -2 \text{ i } y = -6$$