

499. Ako je $f(2x+1) = -2x^2 + 14x + \frac{11}{2}$, tada je $f(x)$ jednako:

1. $-\frac{1}{2}x^2 - 8x - 2$ 2. $-\frac{1}{2}x^2 + 8x - 2$ 3. $-\frac{1}{2}x^2 - 8x + 2$ 4. $-\frac{1}{2}x^2 + 8x - 2$

$$f(2x+1) = -2x^2 + 14x + \frac{11}{2}$$

$$f(x) = ?$$

→ supstitucija:

$$2x+1 = t$$

$$2x = t-1 \quad /:2$$

$$x = \frac{t-1}{2}$$

$$f(t) = -2\left(\frac{t-1}{2}\right)^2 + 14 \cdot \left(\frac{t-1}{2}\right) + \frac{11}{2}$$

$$f(t) = -2 \cdot \frac{(t-1)^2}{2^2} + 7(t-1) + \frac{11}{2}$$

$$f(t) = -2 \cdot \frac{t^2 - 2t + 1}{4} + 7t - 7 + \frac{11}{2}$$

$$f(t) = -\frac{t^2 - 2t + 1}{2} + 7t + \frac{-14 + 11}{2}$$

$$f(t) = \frac{-t^2 + 2t - 1 + 14t}{2} - \frac{3}{2}$$

$$f(t) = \frac{t^2 + 16t - 1}{2} - \frac{3}{2}$$

$$f(t) = \frac{t^2 + 16t - 1 - 3}{2}$$

$$f(t) = \frac{t^2 + 16t - 4}{2} = -\frac{1}{2}t^2 + 8t - 2$$

$$\Rightarrow f(x) = -\frac{1}{2}x^2 + 8x - 2$$