

Zadatak 5. Odredi:

$$1) \int \frac{1}{2x} dx;$$

$$2) \int \frac{1}{1-x} dx;$$

$$3) \int \frac{2}{3x-2} dx;$$

$$4) \int \frac{x+2}{x+1} dx;$$

$$5) \int \frac{3-x^2}{x} dx;$$

$$6) \int \frac{x^3-x+2}{x-1} dx.$$

Rješenje.

$$1) \int \frac{1}{2x} dx = \frac{1}{2} \int \frac{dx}{x} = \frac{1}{2} \ln|x| + C;$$

$$2) \int \frac{1}{1-x} dx = -\ln|1-x| + C;$$

$$3) \int \frac{2}{3x-2} dx = \frac{2}{3} \ln|3x-2| + C;$$

$$4) \int \frac{x+2}{x+1} dx = \int \frac{x+1+1}{x+1} dx = \int \left(1 + \frac{1}{x+1}\right) dx = x + \ln|x+1| + C;$$

$$5) \int \frac{3-x^2}{x} dx = \int \left(\frac{3}{x} - x\right) dx = 3 \ln|x| - \frac{x^2}{2} + C;$$

$$6) \int \frac{x^3-x+2}{x-1} dx = \int \left(x^2 + x + \frac{2}{x-1}\right) dx = \frac{x^3}{3} + \frac{x^2}{2} + 2 \ln|x-1| + C.$$