

Zadatak 44. Napiši u binarnom sustavu sljedeće racionalne brojeve:

- 1) $\frac{1}{2}$; 2) $\frac{1}{8}$; 3) $\frac{3}{2}$;
4) $\frac{1}{2^n}$; 5) 0.25; 6) 2.5;
7) 12.125; 8) 2.0625.

Rješenje. Brojeve treba prikazati po potencijama od 2 i $\frac{1}{2}$.

- 1) $\frac{1}{2} = 2^{-1} = 0.1_{(2)}$;
2) $\frac{1}{8} = 2^{-3} = 0.001_{(2)}$;
3) $\frac{3}{2} = 1 + \frac{1}{2} = 1 + 2^{-1} = 1.1_{(2)}$;
4) $\frac{1}{2^n} = 2^{-n} = 0.0 \dots 01_{(2)}$ ($n - 1$ nula);
5) $0.25 = \frac{1}{4} = 2^{-2} = 0.01_{(2)}$;
6) $2.5 = 2 + \frac{1}{2} = 2 + 2^{-1} = 1.1_{(2)}$;
7) $12.125 = 12 + \frac{1}{8} = 2^3 + 2^2 + 2^{-3} = 10100.001_{(2)}$;
8) $2.0625 = 2 + \frac{1}{16} = 2 + 2^{-4} = 10.0001_{(2)}$.