



Zadatak 51. Ako je $A = 0.4818181\dots = \frac{a}{b}$, $a, b \in \mathbf{N}$, $M(a, b) = 1$, odredi $a + b$.

Rješenje. Zapišimo A u obliku razlomka:

$$\begin{aligned} A = 0.4818181\dots &= \frac{4}{10} + \frac{81}{1\,000} + \frac{81}{100\,000} + \frac{81}{10\,000\,000} + \dots \\ &= \frac{2}{5} + \frac{81}{1\,000} \left(1 + \frac{1}{100} + \frac{1}{10\,000} + \dots \right) = \frac{2}{5} + \frac{81}{1\,000} \cdot \frac{1}{1 - \frac{1}{100}} \end{aligned}$$

$$= \frac{2}{5} + \frac{81}{1\,000} \cdot \frac{100}{99} = \frac{2}{5} + \frac{9}{110} = \frac{53}{110};$$

Dakle,

$$a = 53, \quad b = 110; \quad a + b = 163.$$