

Zadatak 31. Ako je $f(x) = \log_4 x + 3 \log_2(8x)$, koliko je $f(x) + f\left(\frac{1}{x}\right)$?

Rješenje.

$$f(x) = \log_4 x + 3 \log_2(8x) = \frac{1}{2} \log_2 x + 3 \log_2 2^3 + 3 \log_2 x = \frac{7}{2} \log_2 x + 9;$$

$$f(x) + f\left(\frac{1}{x}\right) = \frac{7}{2} \log_2 x + 9 + \frac{7}{2} \log_2 \frac{1}{x} + 9 = 18 + \frac{7}{2} \log_2 x - \frac{7}{2} \log_2 x = 18.$$