

$$4) \log(50) + \log(4) - \log(2) = \log(50 \cdot 4) - \log(2) \\ = \log\left(\frac{50 \cdot 4}{2}\right) = \log(100) = 2$$

$$5) \frac{1}{2} \log_3(36) - \log_3(2) \stackrel{6)}{=} \log_3(36^{1/2}) - \log_3(2) \\ = \log_3(6) - \log_3(2) \\ \stackrel{4)}{=} \log_3\left(\frac{6}{2}\right) = \log_3(3) \stackrel{1)}{=} 1$$

ex 4.2.4

Rép a) $\log(12)$ b) 2 c) $\log\left(\frac{125}{9}\right)$ d) $\frac{3}{2}$

$$a) \log\left(\frac{16 \cdot 3^2}{2^2 \cdot 9^{1/2}}\right) = \log\left(\frac{16 \cdot 3^2}{4 \cdot 3}\right) = \log(4 \cdot 3) = \log(12)$$

$$b) \log\left(\frac{\overset{3}{15} \cdot \overset{2}{10^3}}{\underset{10}{30} \cdot 5}\right) = \log(10^2) = 2$$

$$c) \log\left(5^4 \cdot \frac{1}{5}\right) - \log(3^3) + \log(27^{1/3}) = \log\left(\frac{5^3}{27} \cdot 3\right) = \log\left(\frac{125}{9}\right)$$

$$d) \frac{\log\left(\frac{20 \cdot 100}{2}\right)}{\log\left(\frac{5'000 \cdot 0,1}{5}\right)} = \frac{\log(1000)}{\log(100)} = \frac{3}{2}$$