ZAD 8a

$\log_2 16 = x \quad 2^x = 16 \quad 2^x = 2^4 \rightarrow x = 4$

$\log_{\frac{1}{3}} 3 = x \quad \left(\frac{1}{3}\right)^x = 3^1 \quad \left(\frac{1}{3}\right)^x = \left(\frac{1}{3}\right)^{-1} \rightarrow x = -1$

$\log_4 2 = x \quad 4^x = 2 \quad 2^{2x} = 2 \rightarrow 2x = 1 \quad x = \frac{1}{2}$

$\log_{0,1} 0,027 = x \quad 0,3^x = 0,027 \quad 0,3^x = 0,3^3 \Rightarrow x = 3$

$\log_{0,1} 100 = x \quad 0,1^x = 100 \quad \left(\frac{1}{10}\right)^x = 10^2 \quad 10^{-x} = 10^2 \Rightarrow -x = 2$

$x = -2$

ZAD 8b

$\log_5 5 = x \quad 5^x = 5^1 \rightarrow x = 1$

$\log_7 1 = x \quad 7^x = 1 \quad 7^x = 7^0 \rightarrow x = 0$

$\log_5 5^3 = 3 \log_5 5 = 3 \cdot 1 = 3$ ($\log_5 5 = 1$)

$\log_8 8^{\frac{1}{3}} = \frac{1}{3} \log_8 8 = \frac{1}{3} \cdot 1 = \frac{1}{3}$ ($\log_8 8 = 1$)

$\log_{\frac{3}{4}} \frac{3}{4} = x \quad \left(\frac{3}{4}\right)^x = \left(\frac{3}{4}\right)^1 \rightarrow x = 1$

ZAD 8c

$\log 10 = x \quad 10^x = 10^{x\,1} \rightarrow x = 1$

$\log 0,1 = x \quad 10^x = \frac{1}{10} \quad 10^x = 10^{-1} \rightarrow x = -1$

$\log 10^5 = 5 \log 10 = 5 \cdot 1 = 5$ ($\log 10 = 1$)

$\log 1000 = x \quad 10^x = 1000 \quad 10^x = 10^3 \rightarrow x = 3$

$\log \sqrt{10} = x \quad 10^x = 10^{\frac{1}{2}} \rightarrow x = \frac{1}{2}$