

Aufgabe 3

a) $\log_3(81) = 4$, weil $3^4 = 81$

b) $\log_4(16) = 2$, weil $4^2 = 16$

c) $\log_2\left(\frac{1}{8}\right) = -3$, weil $2^{-3} = \frac{1}{2^3} = \frac{1}{8}$

d) $\log_{10}(1) = 0$, weil $10^0 = 1$

e) $\log_{25}(5) = \frac{1}{2}$, weil $25^{\frac{1}{2}} = \sqrt{25} = 5$

f) $\log_{\frac{1}{6}}(36) = -2$, weil $\left(\frac{1}{6}\right)^{-2} = \frac{1}{\left(\frac{1}{6}\right)^2} = \frac{1}{\frac{1}{36}} = 36$

g) $\log_{32}(2) = \frac{1}{5}$, weil $32^{\frac{1}{5}} = \sqrt[5]{32} = 2$

h) $\log_2(32) = 5$, weil $2^5 = 32$