

### 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  $2^5 = 32$