Problem 1. Calculate the values of the following expressions (please do not use a calculator):

(a) \( \log_2(16) = \)

(b) \( \log_2(2) = \)

(c) \( \log_2(1024) = \)

(d) \( \log_3(9) = \)

(e) \( \log_3(81) = \)

(f) \( \log_5(25) = \)

(g) \( \log_5(125) = \)

(h) \( \log_5(5) = \)

(i) \( \log_5(1) = \)

(j) \( \log_{10}(1000) = \)

(k) \( \log_{10}(10000) = \)

(ℓ) \( \log_4(2) = \)

(m) \( \log_9(3) = \)

(n) \( \log_8(2) = \)

(o) \( \log_8(1) = \)

(p) \( \log_8(4) = \)

(q) \( \log_8(8) = \)

(r) \( \log_8(16) = \)

Problem 2. Try to think of some situations in which the logarithmic scale is useful and those when the logarithmic scale can be misleading.