

Given $\log_{10} 2 = u$ and $\log_{10} 3 = v$ find each logarithm by using u and v (Not Calculator data).

a) $\log_{10} 24$

b) $\log_{10} \frac{8}{9}$

c) $\log_{10} \sqrt[3]{27}$

d) $\log_2 3$

e) Find the pH of a solution with $[H_3O^+] = 7.5 \times 10^{-6}$ (pH value = $-\log_{10}[H_3O^+]$)

Solve X

a) $\left(\frac{1}{3}\right)^{x+2} = (\sqrt[3]{3})^{4x+3}$

b) $x = 10^{\log(2x-4)}$

c) $\log_x \frac{64}{25} = -2$

d) $\log_{\frac{2}{3}} (2x+1) = 0$

e) $\log_{27} \sqrt[3]{3} = x$

f) $\ln e^{\ln(x-3)} - \ln(x-2) = \ln \frac{1}{2}$

Suppose \$45000 is invested at an annual rate of 1.8 % for 5 years, find the future value A if interest is compounded as follows:

a) Annually

b) Semi-Annually

c) Quarterly

d) Monthly

e) Daily (365 Days)

f) Continuously