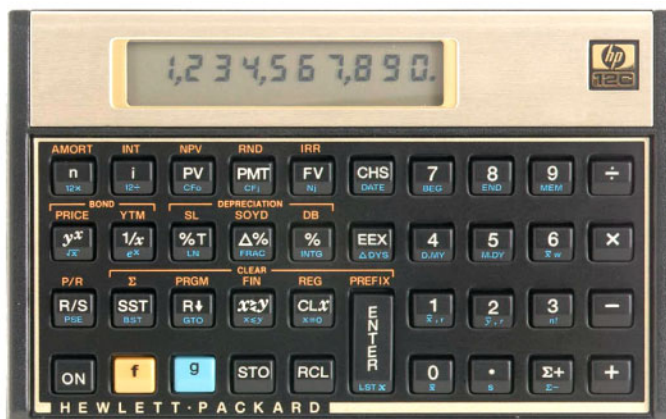




hp calculators

HP 12C Logarithm and Exponential Functions



Basic logarithm and exponential relationships

Logarithm and exponential functions on the HP12C

Practice solving logarithm and exponential problems

Solution: The expression below represents the problem:

$$\text{NOM} = \ln(0.0618 + 1) \quad \text{Figure 4}$$

The following keystroke sequence can be used to compute the effective rate:

$\boxed{0} \boxed{\cdot} \boxed{0} \boxed{6} \boxed{1} \boxed{8} \boxed{\text{ENTER}} \boxed{1} \boxed{+} \boxed{9} \boxed{\text{LN}}$

Answer: An effective interest rate of 6.18% is equivalent to a nominal interest rate of 6%, compounded continuously.

Example 3: Evaluate the following expressions and find x :

$$x = \sqrt[4]{81} \quad (1)$$

$$x = \log_{10}(200) \quad (2)$$

$$x = \log_3(20) - \log_3(5) \quad (3)$$

Solution: The original expression in (1) can be rewritten like this:

$$\sqrt[4]{81} = 81^{-(1/4)}$$

To find the solution, press:

$\boxed{8} \boxed{1} \boxed{\text{ENTER}} \boxed{4} \boxed{1/x} \boxed{\text{CHS}} \boxed{y^x}$

0.33

Figure 5

In expression (2), one of the basic logarithm properties can be applied:

$$\log_a(b) = \frac{\ln(b)}{\ln(a)} \quad \text{Figure 6}$$

So expression (2) is rewritten:

$$\log_{10}(200) = \frac{\ln(200)}{\ln(10)} \quad \text{Figure 7}$$

To find the solution, press:

$\boxed{2} \boxed{0} \boxed{0} \boxed{9} \boxed{\text{LN}} \boxed{1} \boxed{0} \boxed{9} \boxed{\text{LN}} \boxed{\div}$

2.30

Figure 8

In expression (3), the following sequence can be used:

2 0 9 LN 3 9 LN ÷ 5 9 LN 3 9 LN ÷ -



1.26

Figure 9

Answer: The answers are:

$$x = \sqrt[4]{81} \Rightarrow x = 0.33;$$

$$x = \log_{10}(200) \Rightarrow x = 2.30;$$

$$x = \log_3(20) - \log_3(5) \Rightarrow x = 1.26$$