## Evaluating Expressions

Example :
        Evaluate the expression :   $\log_4 16 - 3 \log_7 49$

        $\log_4 16 - 3 \log_7 49 = \log_4 4^2 - 3 \log_7 7^2$

                          $= 2 \log_4 4 - 6 \log_7 7$

                          $= 2 (1) - 6 (1)$

                          $= -4$

$\log_a b^c = c \log_a b$

$\log_a a = 1$

**Evaluate each expression.**

1)   $\dfrac{3 \log_7 49}{\log_4 64}$

     Answer

2)   $\log_5 125 + 8 \log_2 16$

3)   $\left(\dfrac{1}{4}\right) \log_4 16 - \text{lo}$     128

     Answer

5)   $\dfrac{\log_6 36}{\log_7 49}$

     Answer

                   $_2 64$

7)   $\log_{11} 121 - 2 \log$

     Answer

                   Answer

9)   $4 \log_2 32 - \log_5 25$

     Answer

10)   $\log_9 81 \cdot \log_3 9$

     Answer