Name_____ Class _____ Date_____

Worksheet: Logarithmic Function

1. Find the value of y.

   (1) $\log_5 25 = y$

   (5) $\log_5 1 = y$

   (9) $\log_y 32 = 5$

2. Evaluate.

   (1) $\log_3 1$ (2) $\log_4 4$ (3) $\log_7 7^3$

3. Write the following expressions in terms of logs of x, y and z.

   (1) $\log x^2 y$

   (5) $\log \dfrac{x}{yz}$ (8) $\log x\sqrt{z}$

   (9) $\log \dfrac{\sqrt[3]{x}}{\sqrt[3]{yz}}$

Name : _____ Score : _____

Evaluating Expressions

Example :

Evaluate the expression : $\log_2 8 + \log_3 9$

$\log_2 8 + \log_3 9 = \log_2 2^3 + \log_3 3^2$

$= 3\log_2 2 + 2\log_3 3$

$= 3(1) + 2(1)$

$= 5$

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

$\log_a a = 1$

Evaluate each expression.

1) $2\log_5 25 - \log_4 16$

Answer

3) $\dfrac{\log_3 27}{2\log_2 4}$

Answer

5) $\left(\dfrac{1}{2}\right)\log_2 16 - \log_4 64$

Answer

7) $\dfrac{2\log_3 16}{\log_7 49}$

Answer

9) $\log_9 729 - 2\log_3 128$

Answer