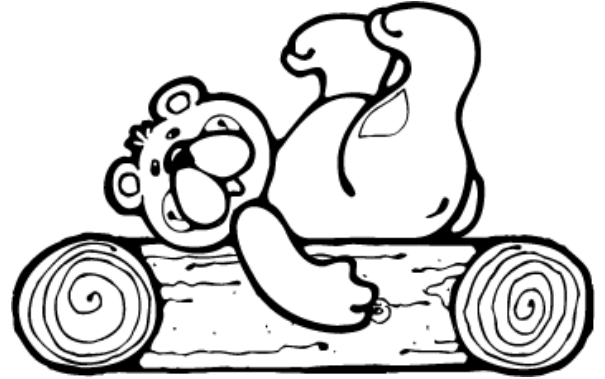Name _____   Date _____

Express as a Single Logarithm - Step-by-Step Lesson

Express the following as a single logarithm and simplify:

1) **log 4 + log 7**
2) **log 5 - log 2**

Explanation:

1) **From the property of logarithm:**

log a + log b = log a*b

Hence,

log 4 + log 7   = log 4*7

              = log 28   is a single logarithm form.

The value of log 4 in log table = 0.6020600

The value of log 7 in log table = 0.8450980

Hence,

log 4 + log 7   = 0.6020600 + 0.8450980

              = 1.45   which is same as log 28.

2) **From the property of logarithm:**

log a - log b = log a/b

Hence,   log 5 – log 2   = log 5/2

                = log 2.5   is a single logarithm form.

The value of log 5 in log table = 0.698970004

The value of log 2 in log table = 0.301029996

Hence, log 5 - log 2   = 0.698970004 - 0.301029996

              = 0.4   which is same as log 2.5.