Name: _____ Date: _____ Class: _____

Solving Exponential and Logarithmic Equations 3

Property of Equality for Logarithmic Equations: If $\log_b x = \log_b y$, then $x = y$.

In other words, when there is _____ Logarithm on the left, and _____ Logarithm on the right, then

then you can _____ the Logarithmic arguments.

Ex. 1 Solve by using properties of logarithms.

Solve: $\log_7(x-8) + \log_7(2) + = \log_7(x-1)$

Solve: $+\log(5x+2) = \log(x+1) + \log(2) + \log(3)$

YOU TRY!

Solve: $\log_8(2x+3) + \log_8(4) = \log_8(4-x)$

Ex. 2 Solve by using properties of logarithms.

Solve: $\log_2(2x+3) - \log_2(5) = \log_2(x+1)$

Solve:$\log(2x+1) - \log(x) = \log(3) + \log(4)$

YOU TRY!

Solve:$\log(x+1) - \log(10) = \log(10)$

Ex. 3 Solve by using properties of logarithms.

Solve: $\log_3(2x-1) + \log_3(4) = 1$

Solve: $\log(x+2) - \log(2x) = 2$

YOU TRY!

Solve: $\log_2(3) + \log_2(2x) = 3$

Solve: $\log_2(2x+3) - \log_2(x) = 3$