We can, if the base of the logs are the same, equate the arguments,

$\log_a(\text{stuff}) = \log_a(\text{other stuff})$

stuff = other stuff

HW 4R
p.130
#1 abd

Ex1 Solve $\log_5(2-x) = \log_5(6x-1)$

$2 - x = 6x - 1$

$+1 \quad 3 = 7x$

$\frac{3}{7} = x$

* may have to simplify first:

$2\log_3(x) + \log_3(3x) = \log_3(15)$

$\log_3(x^2) + \log_3(3x) = \log_3(15)$

$\log_3(3x^3) = \log_3(15)$

$3x^3 = 15$

$x^3 = 5$ $\sqrt[3]{\ }$

Ex 2) $\log_2(x) + \log_2(x-2) = 3$

convert to exponential

$\log_2(x(x-2)) = 3$

$\log_2(x^2-2x) = 3$

$2^3 = x^2 - 2x$

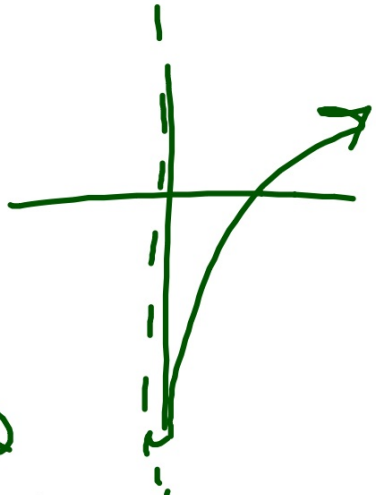
$x^2 - 2x - 8 = 0$

$(x-4)(x+2) = 0$

$x = 4$ or $x = -2$

Check to see what works

$x = -2$ DOES NOT



HW 45 p 131
#1, 2 abc
3, 4

1h) $e^{\frac{x}{5}} = 0.11$

$\ln(e^{\frac{x}{5}}) = \ln(0.11)$

$5 \cdot \frac{x}{5} \cancel{\ln e} = \ln(0.11) \cdot 5$

$x = 5\ln(0.11)$

$x \approx -11.0$