2.13B Exponential and Logarithmic Equations and Inequalities

AP Precalculus Name: _____

CA #1

CALCULATOR ACTIVE: Instructions: Solve each inequality.

1) $log_5(x+8)-6<-4$

2) $8\cdot 4^{2x}-5>-3$

3) $\log(3x-2)\geq \log 5+\log(x-4)$

4) $log_3\,(2x-3)\geq 3$

Instructions: Find the inverse of each function.

5) $g(x)=\log(2x-3)-5$

6) $f(x)=2(3^{x+1})+10$

ANSWERS

1) $-8 < x < 17$ or $(-8,17)$
2) $x > -\frac{1}{2}$
3) $4 < x \leq 9$ or $(4,9]$
4) $x \geq 15$ or $[15, \infty)$
5) $g^{-1}(x) = \frac{10^{x+5}+3}{2}$
6) $f^{-1}(x) = log_3\left(\frac{x-10}{2}\right) - 1$