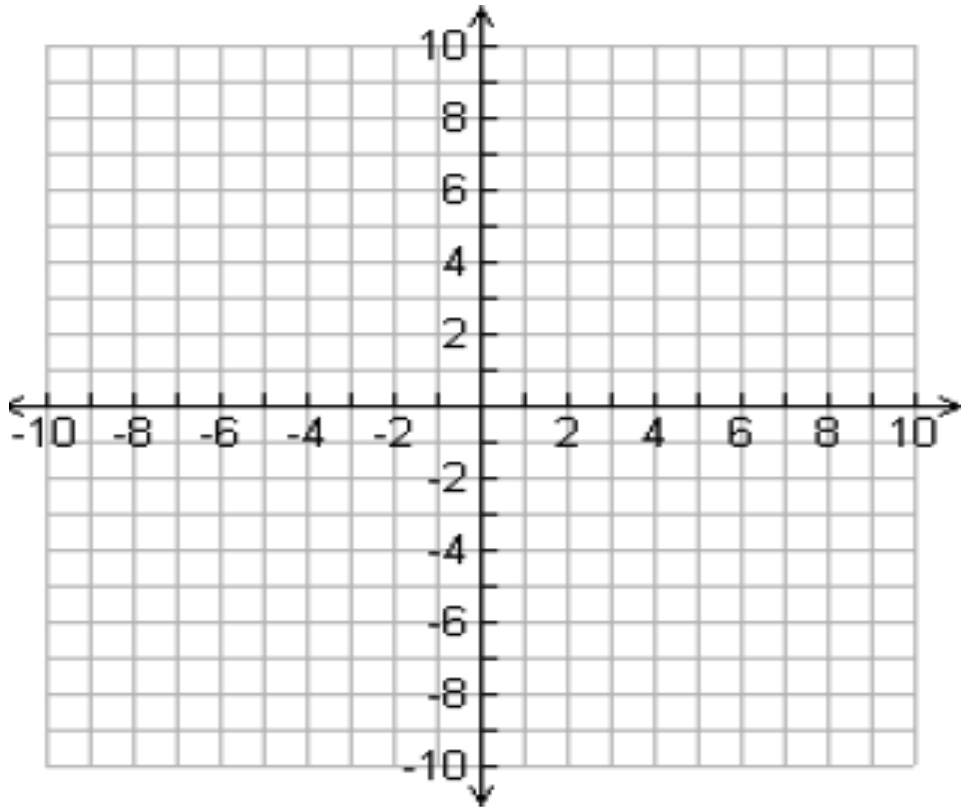


**Pre-Calculus**  
**Sec. 3.4**  
**Exponential and Logarithmic**  
**Equations**  
**(day 3)**

Review :

Graph. State domain and range in interval notation.

$$f(x) = \log_3(2 - x) + 3$$



1) Given  $\log_a 5 = x$  and  $\log_a 3 = y$

Evaluate the following in terms of  $x$  and/or  $y$

$$\log_a (.12)$$

2) Solve for x:  $(\sqrt[3]{2})^{2-x} = 2^{x^2}$

3) State the domain in interval notation :

$$\log_3 \left( \frac{x^2 - 4}{x + 3} \right)$$

4) Solve for x :

$$\log_6 \sqrt[3]{-2x-8} - \log_6 \sqrt[3]{x-5} = \log_6 \sqrt[3]{x+4}$$

5) Solve for x:  $3^{2x} + 3^{2+x} - 10 = 0$

6) Solve for x:  $2e^x - 4e^{-x} = 7$



7) Solve for x :  $\log_6(x - 2) + \log_6 x = \log_6 8$

8) Solve for  $x$ :  $\log_9(4 + x) = \log_9(2x - 1)$

9) Solve for x :  $\log_3 x + \log_3 (x - 8) = 2$

10) *Solve for x:*  $\log_x 32 = \frac{5}{2}$

11) *Solve for x:*  $3^{6x} = 27\sqrt{81}$

12) Solve for x :  $3^x - 3^{-x} = 4$