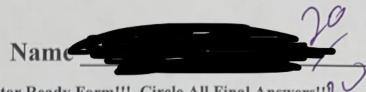
## Hon Pre-Calculus Test Correction Quiz Chapter 3



Leave Answers In Simplified Calculator Ready Form!!! Circle All Final Answers!!

## **Short Answer**

1. Evaluate: 
$$\log_{27} \sqrt[3]{81}$$
 $\log_{27} \sqrt[3]{3}$ 
 $27^{\times} = 3$ 
 $27^{\times} = 3$ 

2. Given that  $\log_b 9 = a$  and  $\log_b 2 = c$ , find an expression for  $\log_b \frac{48}{b^3}$  in terms of a and c.

3. Condense:  $\frac{1+2\log_{27}x}{3}$   $\frac{1}{3} + \frac{2}{3}\log_{27}x$   $\frac{1}{3} + \log_{27}x$   $\frac{1}{3} + \log_{27}x$   $\log_{27} + \log_{27}x$   $\log_{27} + \log_{27}x$   $\log_{27} + \log_{27}x$ 

4. Solve: 
$$\log_3 x = \log_{27} (x^2 + 4x - 4)$$

$$\log_3 x = \log_3 (x^2 + 4x - 4)$$

$$\chi^3 = \chi^2 + 4\chi - 4$$

$$\chi^3 - \chi^2 - 4\chi + 4 = 0$$

$$\chi^2 (\chi + 1) - 4(\chi + 1) = 0$$

$$(\chi + 2)(\chi - 2)(\chi - 1) = 0$$

$$\chi = 1, 2$$

5. Assume that the number of people infected by a newly discovered virus is growing exponentially. If the number of people infected increases from 200 to 1000 in 3 weeks, how much additional time will it take before 25000 people are infected?

25000= 1000 (s)
$$\frac{1}{3}$$
25= (5) $\frac{1}{3}$ 
 $6^{2}=5^{\frac{1}{3}}$ 
 $\frac{1}{3}=2$ 
 $\frac{1}{3}=2$