

2nd Alternative Academic Work(AAW) for the 2nd Quarter
(posted on Oct. 21, 2013, Monday)

Name: _____
Year and Section: _____

Rating: _____
Score: _____

Solve the following problems by showing the solutions completely. **Encircle** the final answer. Write all the answers on a/the paper(s). Submission of this 2nd AAW will be on or before November 7 – 12, 2013. **(Total points: 70pts)**

I – Perform the indicated task. (40pts)

1.) If $f(x) = \log_2 x$ for $x > 0$, then find $f^{-1}(x)$.

2.) If $\log_a 3 = x$ and $\log_a 5 = y$, then find $\log_a 45$.

3.) If $x = e^{\ln 5}$ then find x .

4.) Find x : $x = e^{2 \ln a}$

5.) If $\log_a x^2 = 5$, find the value of $\log_a x$.

6.) If $3^n = 3$, then find 3^{2n+1} .

7.) Evaluate $\log_8 16$.

8.) Evaluate $\log 20 + \log 50$.

9.) Evaluate $(\log_4 64)(\log_4 256)$.

10.) Find the value of x : $b^{x^2-2x} = 1$

11.) Find the value of m in $\log_{25} \frac{1}{125} = m$.

12.) If $\log_n 4 = \frac{2}{3}$, then find the value of n .

13.) Solve for x in $3^{2x+2} = 27^{x^2-1}$

14.) Find the value of x : $(2)^{2x-2} = \left(\frac{1}{64}\right)^{3+x}$

15.) Solve for x in $6^{1-2x} = 8$

16.) Find the value of x in $27^{2x-2} = 9^{5-x}$

17.) Find the value of x in $2^x \cdot 3^{x-2} = 24$

18.) Solve for x in $e^{x^2} = e^x e^{\frac{3}{4}}$

19.) Approximate the value of x: $2^x(4^{2x-1}) = 3$

20.) Determine the value of x and y in $\begin{cases} 2^{x+y} = 16 \\ 3^{x-y} = 81 \end{cases}$

II – Determine the solution set of the following. Perform the checking if necessary. (30pts)

1.) $\log_7(x-5) + \log_7(x+1) = 1.$

2.) $2\log_2x - \log_2(x+3) = 2$

3.) $\ln(5+4x) - \ln(3+x) = \ln 3$

4.) $\ln(x-10) + \ln(x-2) = 0.$

5.) $\log_8(x-1) + \log_8(x+1) = 1$

6.) $\ln(x^2 + x - 2) = \ln x + \ln(x - 1)$

7.) $e^{2x-1} = 3$

8.) $\log(\log x) = 1.$

9.) $\ln(e^{3x}e^{2x+1}) = 5$

10.) $3xe^x + x^2e^x = 0$