

King Fahd University of Petroleum and Minerals
University Diploma Programs
Math 002 (052)
Quiz # 1

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Feb 21, 2006

Name :

ID:.....

Question1:

For the function

$$f(x) = -\left(\frac{1}{2}\right)^{-x+2} - 2$$

- 1) sketch the graph of $f(x)$
- 2) find the x - intercept and the y - intercept
- 3) find the range
- 4) find the asymptote(s)
- 5) find the inverse function $f^{-1}(x)$

Question2:

For functions

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

- 1) sketch the graph of $f(x)$
- 2) find , if any, the x - intercept and the y - intercept
- 3) find the domain
- 4) find the asymptote(s)
- 5) find the inverse function $f^{-1}(x)$

Question3:

If the graph of the logarithmic function $f(x) = \log_b x$ passes through the point $\left(\frac{1}{64}, -3\right)$, then find $f(2)$.

Question4:

If a bacteria population starts with 1000 bacteria and doubles every three hours, then the number of bacteria after t hours is $N(t) = 1000 \cdot 2^{t/3}$.

When will the population reach 128000?