KEY

MATH 1060

QUIZ 1

1. Find a formula for the inverse of the function

   a. $f(x) = e^{3x - 7}$

   $y = e^{3x-7}$

   $\ln y = 3x - 7$

   $\Rightarrow x = \frac{\ln y + 7}{3}$

   $\Rightarrow y = \frac{\ln x + 7}{3}$ $\Rightarrow f^{-1}(x) = e^{x} - 7$

   b. $y = \ln(x + 7)$

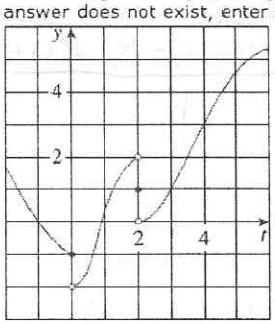
   $y = \ln(x+7)$

   $e^{y} = x + 7$

   $\Rightarrow x = e^{y} - 7$

   $\Rightarrow y = e^{x} - 7$ $\Rightarrow f^{-1}(x) = e^{x} - 7$

2. For the function g whose graph is given, state the value of each quantity, if it exists. (If an answer does not exist, enter DNE.)



(a) $\lim_{t \to 0^-} g(t)$ -1

(b) $\lim_{t \to 0^+} g(t)$ -2

(c) $\lim_{t \to 0} g(t)$ DNE

(d) $\lim_{t \to 2^-} g(t)$ 2

(e) $\lim_{t \to 2^+} g(t)$ 0

(f) $\lim_{t \to 2} g(t)$ DNE