# Name : math133 unit 5 individual project a 

Science, Mathematics

## ASSIGN BUSTER

NAME : MATH133 Unit 5 Individual Project - A Describe the transformations on the following graph of $f(x) \ddot{€} \notin 1 / 2 \log (x)$. State the placement of the vertical asymptote and x-intercept after the transformation. For example, vertical shift up 2 or reflected about the x-axis are descriptions. 1) 109876 54321 -10 -9 -8 -7 -6 -5 -4 -3-2-1 $0-1-2-3-4-5-6-7-8-9-10 Y \times 1234$ 5678910 a) $g(x)=\log (x-5)$ Description of transformation: Equation(s) for the Vertical Asymptote(s): x-intercept in (x, y) form: b) g(x) $\bar{€} \notin 1 / 2 \mathrm{ï€} \log (x)$ ï€« 2 Description of transformation: Equation(s) for the Vertical Asymptote(s): x-intercept in (x, y) form: 2) Students in an English class took a final exam. They took equivalent forms of the exam at monthly intervals thereafter. The average score $S(t)$, in percent, after $t$ months was found to be given by $S(t)=68 \hat{a}^{\wedge \prime} 20 \log (t+1), t$ â\%o¥ 0 . a) What was the average score when they initially took the test, $\mathrm{t}=0$ ? Answer: Show your work in this space: b) What was the average score after 14 months? Answer: Show your work in this space: c) After what time t was the average score $40 \%$ ? Answer: Show your work in this space: 3) The formula for calculating the amount of money returned for an initial deposit into a bank account or CD (certificate of
 return. P is the principal amount initially deposited. $r$ is the annual interest rate (expressed as a decimal). n is the number of compound periods in one year. t is the number of years. nt Carry all calculations to six decimals on each intermediate step, then round the final answer to the nearest cent. Suppose you deposit \$3, 000 for 6 years at a rate of $7 \%$. a) Calculate the return (A) if the bank compounds semi-annually. Round your answer to the nearest cent. Answer: Show work in this space. Use ${ }^{\wedge}$ to indicate the power
or use the Equation Editor in MS Word. b) Calculate the return (A) if the bank compounds monthly. Round your answer to the nearest cent. Answer: Show work in this space: c) If a bank compounds continuously, then the formula used is $A \mathrm{i} € 1 / 2$ Pe where $e$ is a constant and equals approximately 2.7183 . Calculate A with continuous compounding. Round your answer to the nearest cent. rt Answer: Show work in this space:

