Name : math133 unit 5 individual project a

Science, Mathematics



NAME : MATH133 Unit 5 Individual Project — A Describe the transformations on the following graph of f (x) $i \in \frac{1}{2} \log(x)$. 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) 10 9 8 7 6 5 4 3 2 1 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 Y X 1 2 3 4 5 6 7 8 9 10 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) $i \in \frac{1}{2}$ $i \in \log(x)$ i€« 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 $S(t) = 68 \hat{a}^{\prime} 20 \log (t + 1)$, $t \hat{a} \approx 40$. a) What was the average score when they initially took the test, 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 deposit) is given by if rif¶ A i€½ Pif§1 i€« if if nif A is the amount of the 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 ^ 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 $i \in \frac{1}{2}$ 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: