

Practice Exam 3

- Let $f(x) = a^x$ for some number a . Suppose $f(2) = 5$.
 - Find $f(0)$.
 - Find $f(2)$.
 - Find $f(4)$.
 - Find $f(6)$.
 - Find $f(8)$.
- Calculate the following logarithms:
 - Find $\log_3(1)$.
 - Find $\log_2(8)$.
 - Find $\log(10^{10})$.
 - Find $\ln(10)$.
 - Find $\ln(10^{10})$.
- Solve the following equations:
 - $2^x = 128$.
 - $100(1.02)^x = 256$.
 - $x^7 = 2187$.
- Suppose Alice deposited \$1000 dollars into an account compounded annually. After five years, Alice finds out she has \$1503 in her account. She forgot what the annual interest rate in her account was. Find the interest rate.
- Pepe took 6 classes this semester. His grades were 71, 84, 96, 79, 83, 79.
 - What is the median of his grades?
 - What is the mean of his grades?
 - What is the population standard deviation of his grades?
- Find the following limits (if they don't exist write DNE):
 - Find $\lim_{x \rightarrow 2} \frac{1}{x+2}$.
 - Find $\lim_{x \rightarrow 2} \frac{1}{x-2}$.
 - Find $\lim_{x \rightarrow 2} \frac{x^2 - 4}{x - 2}$.
 - Find $\lim_{x \rightarrow \infty} \frac{1}{x-2}$.
 - Find $\lim_{x \rightarrow \infty} \frac{3x^3 - 7x^2 + 18000}{2x^3 - 2}$.