

Math 418

Nov. 5

Quiz 7

$$1. \log_5(125) = \log_5(5^3) = \boxed{3}$$

$$2. \log_{256} 16 = \log_{2^4}(2^4) = \boxed{\frac{2}{3}}$$

$$2. A(t) = Pe^{rt}, 2000 = 23e^{0.026t} \Rightarrow \ln\left(\frac{2000}{23}\right) = 0.026t$$

$$t = \frac{\ln\left(\frac{2000}{23}\right)}{0.026}$$

$$3. f(x) = 12(5^{3x}), \log_3(12(5^{3x})) = y \Rightarrow \log_3(12) + \log_3(5^{3x}) = y$$

$$3x \log_3(5)$$

slope-intercept form:  $3x \log_3(5) + \log_3(12) = y$

$$mx = 3x \log_3(5)$$

$$b = \log_3(12)$$