

Math 22 Section 9

Quiz 10 Practice

1. Solve for x :

(a) (2 points) $3^{3x} = 27$

(b) (3 points) $\log x + \log(x - 3) = 1$

2. (2 points) Recall that population growth can be modeled using $p(t) = p_0 e^{rt}$ where r is the relative rate of growth and p_0 is the initial population. If the population of a culture of bacteria triples every 2 hours, find the corresponding relative rate of growth r .

3. (2 points) The mass (in grams) of a sample of thorium-234 remaining after t days is given by $m(t) = 40e^{-.0277t}$. After how many days will there be only 20 grams left?