

Name: _____

Section: _____

MATH 120D
QUIZ 7
December 5, 2002

You may use a calculator to complete this quiz. No notes please. Show all work.

1. Let $f(x) = \frac{3}{4^{x-5}}$.

(a) (3 points) Write $f(x)$ as an exponential function in standard form: $f(x) = A_0b^x$.

(b) (2 points) Give the domain and range of $f(x)$.

2. (5 points) The population of a bacteria colony, t hours after midnight, grows according to an exponential model: $P(t) = P_0e^{\alpha t}$. At midnight, there are 4500 bacteria. At 6:45 a.m., there are 92,000 bacteria. Find the values of P_0 and α .