1. =t 100 lice=23.03 days

1000 lice=46.05 days

100,000,000=161.2 days

100,000,000,000=230. 3 days Makes sense that as time increases the population growth will also increase.

2. N(t)=N(0) since the expected population size is double the original 🡪

ln(2)=r50

.0139=r

N(t)=6.9b

N(t)=12.2b

3. If the population increases by 12% per year, then l = 1.12

r = ln l = ln(1.12) = 0.113

tdouble = ln(2)/r

t = ln(2)/0.113 = 6.1 years

4. I think human death rate is significantly density-independent because when exponential growth is continuous population growth in an environment where resources are unlimited; it is density-independent growth.

Three factors that contribute density-independence in humans would be diseases, availability of food, and availability of resources.