Lyme Disease "Outbreak?"

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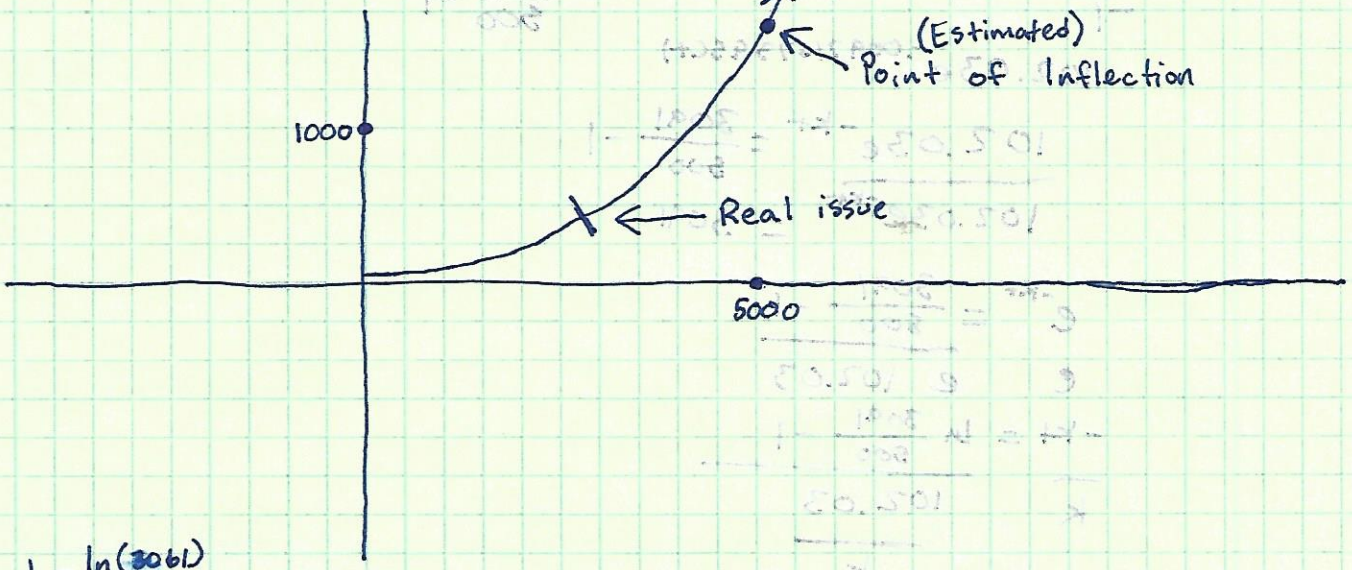
Precalculus

Info: Hansville Wa, 2017, Lyme Disease

US PoP: 308,745,539
Hansville Wa POP: 3091
Spread Rate: .000971673 95
Initial outbreak: 30

② $D(t) = \frac{3091}{1+102.03\bar{3}e^{-.000971673 95(t)}}$

③



④ $t = \frac{\ln(3061)}{.000971673 95}$

$t = 8,260.483817$ days

It will take 8260 days for Lyme disease to infect more than 50% of Hansville. This could also be represented as 22.63 years or July 11, 2040 at 11:35 am.

⑥ $D(t) = \frac{3091}{1+102.03\bar{3}e^{-.000971673 95(45)}}$ $D(t) = \frac{3091}{1+102.03\bar{3}e^{-.000971673 95(90)}}$

$t = 45, 90$

$\frac{3091}{98.668} = 31.3$ $\frac{3091}{94.489} = 32.71$

After 45 days, 31.3 people will be infected, furthermore, after 90 days there will be 32.7 people infected.