

1. 1345 people will be on the island in 75 years. The population will be 1,000,000 in about 265.757 years.
2. The world population will double in approximately 45 years. The world population will reach 10 billion people in the year 2033.
3. The population will reach 5,000,000 people in 2645. The population will reach 10,000,000 people in 2695.
4. The model: $T(t) = 10 + 55e^{-0.20205t}$. The cabin will be freezing at 4:33 A.M. Time to drink some hot tea! 😊
5. The model: $T(t) = 60 + 130e^{-0.052473t}$. The tea will be $120^\circ F$ approximately 14.735 minutes later.