***Exponent Word Problems***

1. The population of a dangerous bacterium doubles every 2 hrs.
   1. If I found 6 individual bacteria in this very room at 7:30 am this morning, how many were there at the start of class? (1:30)

* 1. After 12 hours the bacteria speeds up it’s procreation, doubling every hour! How many ***TOTAL bacterium*** will there be 24 hours (7:30 am) after I found the original 6?

1. After winning $100,000 in the lottery Izzie decided to put it in the bank where she promised a return of $10,000 per year. Lizzie is given a twoonie and invests in a business that promises to double her money every 3 months. Who has more money after 10 years?
2. The amount of humans on Earth doubles every 50 years. If the population will be 8,000,000,000 (8 billion) in 2025.
   1. When was the population 1,000,000,000?
   2. When will the population be 64,000,000,000?
3. A telephone tree is used to send messages. The person at the top calls 2 people. Each person calls 2 more people. Suppose it takes 1 min to call someone.  A message is relayed until the bottom row of the tree has 256 people. How long does this take? 