Tree Growth = f(time)

Eucalyptus Camaldulensis is one of the fastest growing trees there is. It can grow as much as ten percent of the difference between its current height and its maximum height every year. Many grow to be 150 feet tall. That's as tall as a fifteen story building. Imagine planting an 8 foot sapling in your backyard as a shade tree. Model height as a function of time until the tree is full grown. If you wanted to shade your house and to block the sun in the middle of the day you and you needed a tree 85 feet tall, use the inverse function to find how long would you need to wait for it grow tall enough for you to receive its full benefit.

Note: You will want to use the fraction of the height not grown. You will want to use either the form difference – difference*fraction ^ t or the form difference * (1 – fraction ^ t) and to be sure to add the initial height of the sapling.

Be sure to include all elements of the rubric. You may use the back of this paper.