_____ / 10 points   Name: _____

In order to receive credit for this quiz, **all work must be shown** and legible. If you need extra space, use the back of this page and indicate that you have done so. Unsupported or otherwise mysterious answers will not receive credit. You may use a calculator. You may use your notes on this quiz.

Mochi, founder and CEO of _Momo & Co_ has hired you to be her financial advisor. At the start of 2010, the balance of her bank account was \$2700. At the start of 2011, the balance of her bank account was \$3186. Mochi wants to buy a boat for \$5000.

1. Assume that the balance of Mochi's bank account is growing linearly. Find a formula for the balance of Mochi's bank account as a function of the number of years t since 2010. What year will Mochi be able to afford a boat?

2. Assume now that the balance of Mochi's bank account is growing exponentially. Find a (exponential) formula for the balance of Mochi's bank account as a function of the number of years t since 2010.

   At the beginning of 2017, how much money does she have in her bank account? Is it enough to buy a boat?

Suggest a theme for the next quiz: