Name: _____

MATH 101
Fall 2021
HW 19: Due 12/10

"It's about time somebody stood up to Auntie Eleanor. But you, not me. Oh, god! She can't ever know I was here."
–Oliver T'sien, Crazy Rich Asians

Problem 1. (10pt) Suppose you invest $1500 in an account which gains 6% annual interest compounded monthly.

(a) Determine the amount of money in the account after 8 years.

(b) How long until the account has $4000?

(c) How much should you place in the account if you want to have $2000 saved after 3 years?

Problem 2. (10pt) Suppose you invest $430 in an account which gains 4% annual interest compounded semiannually.

(a) Determine the amount of money in the account after 2 years.

(b) How long until the account has $1000?

(c) How much should you place in the account if you want to have $600 saved after 5 years?

Problem 3. (10pt) Suppose you invest $600 in an account which gains 5% annual interest compounded continuously.

(a) Determine the amount of money in the account after 3 years.

(b) How long until the account has $800?

(c) How much should you place in the account if you want to have $900 saved after 10 years?

Problem 4. (10pt) Suppose you invest $3000 in an account which gains 2% annual interest compounded continuously.

(a) Determine the amount of money in the account after 7 years.

(b) How long until the account has $3500?

(c) How much should you place in the account if you want to have $3700 saved after 4 years?