

MATH 210: Homework #1

Due on 01/22/25

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Problem 1

Determine i , n , P , and F (in the notation from the text and notes) for the following situations.

- i) \$600 invested at 4.5% *APR* compounded monthly grows to \$785 in 6 years.
- ii) \$900 invested at 4.5% *APR* compounded quarterly from January 1st 2010 to October 1st 2021 grows to some future value F . so find the given i , n , P and this future value F .

Solution:**Part i)**

From the problem statement, we have:

$$P = 600$$

$$r = 0.045$$

$$n = 6$$

$$m = 12$$

To calculate F , we use the formula

Problem 2

Suppose that \$8,000 is invested with compound interest and 8% annual percentage rate (*APR*.) Determine the future value in 4 years in the compounding is:

- i) quarterly,
- ii) monthly,
- iii) daily.

Problem 3

Suppose that \$3,500 is invested at 4.8% *APR* and quarterly compounding.

- i) What is the balance after 4 years?
- ii) What is the interest accrued in these 4 years?
- iii) What is the return on investment (*ROI*) for these 4 years?
- iv)

Problem 4

Problem 5

Problem 6

Problem 7

Problem 8

Problem 9

Problem 10