William Rossell

CE 417

Homework 4

Due Date: 02/14/2018

Question:

To purchase a new truck, you borrow $22,000. The bank offers an interest rate of 4.5% compounded monthly. If you take a five-year loan and you will be making monthly payments, what is the total amount that must be paid back?

1. What is the number of time periods (n) you should use in solving this problem?

The number of time periods can be either 5 years or 60 months, depending on approach.

1. What rate of interest (i), per period of time, should be used in solving this problem?

If the number of time periods chosen is 5 years, the annual effective interest rate can be calculated as follows:

If the number of time periods chosen is 60 months, the effective interest rate can be calculated as follows:

1. Is the present single amount of money (P) known?

Yes, (P) is the principle amount of $22,000.

1. Which time value factor should be used to solve this problem?

The Single Payment Compound Amount Factor,

1. What amount must be paid back each month?
2. What is the total amount that will be paid back over the life of the loan?
3. What is the total amount of interest you will pay?

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Homework 9

Due Date: 02/14/2018

Question: To purchase a new car, you borrow $18,500. The bank offers a four-year loan at an interest rate of 3.75% while the car dealer offers a six-year loan at an interest rate of 3.5%.

1. If interest is figured by compounding annually and you make only one payment at the end of the loan period repaying the principle and interest, what is the total amount that must be paid for each case?

4-year case:

6-year case:

1. If interest is figured by compounding monthly and you make monthly payments, for each case what is the total amount that will be paid?

4-year case:

6-year case: