What is the PV of those savings?

**Approach I**

\[
PV(PMT = 363.48, N = 12, I/Y = 0) + PV(PMT = 181.74, N = 12, I/Y = 10)\]

\[
\frac{1}{(1 + \frac{10}{12})^{12}} \quad \text{(answer)}
\]

\[
0.00566 \quad \text{(answer)}
\]

**Approach II**

\[
PV(PMT = 181.74, N = 24, I/Y = 10) + PV(PMT = 181.74, N = 24, I/Y = 10)
\]

\[
0.00566 \quad \text{(answer)}
\]

\[
2067.25 \quad \text{(answer)}
\]

\[
2067.25 \quad \text{(answer)}
\]

\[
1271.26
\]
Approach II: Use of Long Term

\[ \begin{array}{c|cc}
   t & CF_t & N_t \\
   \hline
   0 & 0 & - \\
   1-12 & 363.48 & 12 \\
   3-24 & 181.74 & 12 \\
   \hline
   \end{array} \]

NPV: 6003.66

---

204 #9: Suppose assume a 7% interest rate for 140 year mortgage loan. Interest rate must stay at 7%.

\[ PMT_{\text{loan}} \left( PV \ 140,000 \ \text{IMM} \ 7 \% \ 80 \right) = 1258.36 \]

BAL 60 = 108,377.89 (for future use)

\[ PMT_{\text{loan}} \left( PV \ 140,000 \ \text{IMM} \ 7 \% \ 80 \right) \]

BAL 60 = 110,272.76 for future use

Amount of interest on each month is:

337.91 \ 25\% \ 36 = 79.55

\[ a) \ PV \ of \ savings \ for \ 180 \ yrs \]

\[ PV \ (PMT \ 79.55, \ N \ 180, \ I \ \% 8) = 83,241.6 \]
PV $10,000 \times 4.023 = \text{16,048.70} \\

\text{PMT} \text{795.55, N 60, I% 9.277, FV 1,274.81} = \text{951.12}

So this is the amount you should be willing to overpay for this house to get the cut rate financing assuming you will benefit for 5 years.

\text{The cash equivalent value of the house is 760,000} \\

\text{5 \times 2} \\

\text{\$1,948.04, 88}
Chapter 6 Mortgages

1. How do you determine who you should give a loan to?
2. How do you determine what interest rate you should charge?
3. What is the maximum loan amount you should approve?

Mr. or Mrs. Brown walks into your mortgage loan office desiring a mortgage. What questions will you ask? (i.e. what do you want to know to decide whether to grant him or her (or them) a mortgage?

Assessing the Borrower

What is your income?

What is your line of work? (and how long have you been employed in this profession or this employer?)

Permissive for a good credit rating

What income?
List of assets & debts
(will need funds for loan closing and down payment)

For debts need to know monthly obligations
Residency Status (current owner or renter?) - How often have you moved.
Education - Higher education typically leads to lower debt.