

Re: Problems with calculating the proper compounding

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- *From:* The World Wide Wade <aderamey.addw@xxxxxxxxxxxxx>
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In article

<c8fb3fa8-3680-4de4-ab3c-4e7b991d6633@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,

Jim <jim@xxxxxxxxxxxxx> wrote:

Hello,

I'm creating a spreadsheet that automatically determines the payment amount for a mortgage.

The problem that I'm running into is that when the compounding for the interest rate is different from that of the payment frequency, I'm not calculating the equivalent rate correctly.

For example:

J12 = 5.75%

Monthly payments

Amortization = 40

n = 40 * 12 = 480

PV

PMT = ~~~~~~

$1 - (1 + (J1/12)) ^ (-n)$

~~~~~

(J1/12)

^ = exponent

I do that, and then I input J1 instead of J12.

It calculates it very closely, but I know that I'm doing something wrong.

Can someone please tell me?

Looks like the right formula. Maybe some roundoff error somewhere. Try

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its mathematical equivalent,

$$\text{pmt} = \text{PV} * (1+r)^n * r / ((1+r)^n - 1),$$

where r is the monthly interest rate (= 5.75%/12 in your example).

That's what I set up in Excel a long time ago and it seems to give me exact answers.

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