Credit related formulas

Source:
http://www.tech−archive.net/Archive/Excel/microsoft.public.excel.worksheet.functions/2004−08/1693.html

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Hi,

I am hoping some of the "money math" people that lurk around here could please point me to reference (textbook prefered) that would help me gain a deeper understanding of computing interest paid over the life of a loan, credit card interest, etc. I know that Excel has many built−in functions for many of these issues, but I need to do more of the "work" myself.

The problem that I am currently stuck on is this:

I have a CC that compounds its interest monthly based upon the average daily balance during that period. The due date for the bill is the 25th of each month. I can perform the simple stuff like given the principal, APR, and payment X, determine how long will it take me to pay off the debt (including the total interest paid).

What if, instead of paying my bill on time, I pay the bill at the *beginning* of the month, thus the average daily balance for each period would be less. The end result is that the total interest paid has decreased. Unfortunately, I haven't been able to find (or derive) any formula/algorithm that accomplishes this; but the CC companies can obviously do it. I am quite sure that every new CC company doesn't figure this stuff out from scratch − there *has* to be existing formulas for these types of problems.

Any references (the web, text books, etc.) would be greatly appreciated!!

−TJ

PS: You cannot reply to my email address − if you want talk to me outside of this newsgroup please post to the group and I will contact you directly.