DIY Annual Percentage Rate (APR)

If our basic APR information left you wanting more, you've come to the right place. Sometimes the only way to get your brain all the way around something is to figure it for yourself. Calculating your own APR is pretty easy.

The Logic

The basic logic behind the APR is that some of the closing costs you pay when you set up a mortgage are loan costs. When assessing the total cost of a loan and comparing one loan to another, you should consider these costs in addition to the interest that you pay.

1. Calculate Your Payment

There are four key parts to every mortgage:

- Loan Amount – The initial principal balance of your loan.
- Term – The length of your loan, expressed in months.
- Interest Rate – Also called the Note Rate.
- Monthly Payment – The principal and interest payment due each month.

If you know any three of these you can always solve for the fourth. All it takes is an amortization calculator and there are some great ones online. I like the one at BrettWhissle.net and will use it in the directions that follow.

First, we need to calculate your monthly payment. Go to: bretwhissel.net/amortization. For "principal" enter your loan amount. Leave 12 in the "payments per year". Enter your note rate for the "annual interest rate". Enter your loan term (in months) in the "number of regular payments". Leave "balloon payment" blank. Hit "calculate". The program will solve for your "payment amount". So far so good.
Don't close the page. We'll be coming back!

2. Calculate Your Finance Charges

The APR calculation is governed by Regulation Z of the Truth in Lending Act (TILA). The Consumer Financial Protection Bureau (CFPB) is the agency in charge of oversight and enforcement. In this role, the CFPB defines certain transaction costs to be "finance charges" for purposes of calculating your APR.

The vast majority of these "finance charges" or "APR fees" are pretty logical. Fees like loan origination or administrative fees, discount points, interim interest and mortgage insurance are all plainly loan-related costs. Mysteriously, your appraisal, although required by your lender, is not an APR fee.

In general, fees going to third parties like your insurance company, the county (for taxes or recording) or the title insurance company are not APR fees. The settlement or escrow fee charged by the title company is, however, considered a finance charge. That's always been a bit of a head-scratcher, as even a cash buyer pays an escrow fee.

In the end it is not ours to question, we just do what the CFPB tells us. Their table of fees is available online (page 12 of the document linked here). For our purposes, use this list:

Add up any of these APR fees applicable to your loan.

- Loan origination
- Discount Points
- Administrative
- Application
- Processing
- Document Preparation
- Underwriting
- Discount Points
- Tax Service
- Interest
- Mortgage Insurance
- FHA Up-Front MIP
- VA Funding Fee
- USDA Guarantee Fee
- Escrow Fee
- Settlement Fee
- Courier Fee
- Wire Fee
- Tax Holdback Fee

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3. Calculate Your APR

Remember your loan has four parts? To calculate your APR, we're going to hold two parts constant, reduce one and solve for the fourth. Your loan term and your monthly payment are the constants. We are solving for your interest rate. To get there, we replace your loan amount with something called the "Amount Financed".

Subtract your APR fees from your loan amount. The resulting figure is the Amount Financed.

Now go back to that amortizing calculator we left open in step 1. Replace the "principal" with the Amount Financed that you just figured. Leave "payments per year", "number of regular payments", "balloon payment" and "payment amount" unchanged. Delete the "annual interest rate" (this box should be empty). Hit "Calculate". The program will solve for the "annual interest rate". The resulting rate is your APR. Or more accurately, I should call it *an* APR.

Why Doesn't It Match?

There's a pretty good chance that the number you just figured doesn't match the APR on your official paperwork.

One possible culprit is mortgage insurance. If your loan has monthly mortgage insurance, the real finance charges actually include monthly mortgage insurance costs (assuming minimum loan payments and no early cancelation of MI). The math above doesn't include MI, so your number will be lower than the real APR. It's pretty tough to hand-figure the APR on a loan with MI.

If your loan doesn't have mortgage insurance, you just discovered a dirty little secret. There is actually some grey area in how the APR is calculated. Different lenders and their software vendors interpret things differently, resulting in the potential for multiple APRs on the same loan. Kind of crazy-making when the whole point of the APR is to be a uniform, comparative device

The biggest variable is in how credits are applied. If you choose a rate that comes with discount points that are a credit (rather than a cost), some APR calculations include this credit as a "finance charge". This has the effect of reducing your APR fees, thereby reducing your APR. Likewise, APR fees that your seller pays on your behalf are sometimes excluded from the APR calculation. The logic: if the seller is paying the fee, you are not and it should be excluded from your APR.

Our Software (and Attorneys)

The software we use to figure the APR for your loan includes all possible fees and ignores seller credits and discount points that are a credit, thus generating a "worst-case" APR. An APR that is under-figured by more than the government's allowable margin of error (.125%) violates the Truth in Lending Act and carries significant liability for a lender. Pretty easy to see why our compliance team, advised by our attorneys, has elected to formulate the APR we give to our clients in this manner.

An Editorial Aside

For what it's worth, we think there's a case to be made that negative discount points should be included in the APR calculation. If you elect to lock a higher rate you are probably doing so because of the credit you are receiving. The credit legitimately reducing your loan costs at closing and, therefore, the credit should (logically) reduce your APR. Again, that's not how we'll actually figure and disclose your APR.

On the other hand, we think it makes sense to ignore seller credits. In the real world, such concessions are usually part of some horse-trading going on in your transaction. If the seller agrees to pay a credit in lieu of making repairs, that's not really a loan-related matter and should not (logically) impact your APR.

If you are curious about exactly what fees are included in your official APR, keep an eye out for your Truth-In-Lending form. It comes with a companion document itemizing and explaining your finance charges.

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