

How To Discount Paper or Notes

I get repeatedly asked [how to discount paper](#). Many people think this is some magical system used to discount a note or mortgage to a specific yield, but really it is quite simple if you have the right tools. I will show you below step by step how to discount a note using both the HP-12C and the Texas Instruments Business Analyst II Plus or BA II Plus.

Generally speaking you need to start by putting the terms of the existing loan into your calculator. For this example we will use a loan or note with a starting balance of \$100,000, payable monthly at 6% interest and fully amortized for 30 years. Once this is in our calculator, we solve for payment. Now let's assume we want to [discount this loan to yield](#) 10%. Since the loan is already in existence we can't change the terms of the loan but we can change what we would pay for this loan to achieve our 10% yield. With the above information already in our financial calculator we change the interest rate to 10% and solve for PV or present value.

Using the BA II Plus the key strokes would be as follows:

1. Clear the financial registers by the beige 2nd key and then pressing the beige CLR TVM. I generally repeat this process by pressing the 2nd key and hitting CLR WORK also and some even add the 2nd key followed by the RESET key.
2. Next, you put in the terms of the above existing loan: 6 I/Y, 100,000 PV, 360 N and solve for the payment by hitting the CPT key followed by the PMT key. The calculator should read -599.55. The number is negative because the calculator is telling us that this is an OUTGOING payment vs an incoming payment which would be positive.
3. Next we put our new yield of 10% into the calculator by putting 10 into the calculator and then pressing I/Y to set the new interest per year at 10%.
4. Next, we press CPT and PV to compute the new present value and we get 68,319.27. This means that if you needed a 10% yield on your invested funds on the note described above, you would pay \$68,319.27 for it. The difference between the \$100,000 and the \$68,319.27 is \$31,680.73 which is the amount of the discount. This is a discount of about 32% ($\$31,680.73$ divided by $\$100,000.00 = .3168$ or rounded to .32 or 32%)

Now if the above note had been seasoned for 3 years or 36 months, when we were changing the interest or I/Y from 6 to 10, we would also change the N from 360 to 324 which is $360 - 36$. Then we would solve for PV like we did above and get \$67,056.46 as our discounted price.

If you are working with interest only payments enter the N as 99999. Working with [balloon payments](#) is a little trickier so contact us and we will discount that for you as a free service.

The entering of data on the 12C is a little different than the BA II Plus. To multiply 3 time 6 on the BA II you would enter the numbers just as you would say them; 3, X, 6, = and you would get 18. On the 12C you would enter 3, enter key, 6, and then X for times and you would get your answer of 18.

To run the same discounting on the 12C we would again enter the terms of the note or loan as it exists currently. We would clear it by pressing the beige f key and then the CLX to clear the financial registers.

Then go as follows:

1. 100000, PV, 360 N, 6 blue g key I, PMT and we would get the same payment as above of - 599.55. Again negative numbers are sums going out and positive numbers are sums coming in.
2. Next enter the new interest rate 10, blue g, I, PV to get the discounted present value.
3. Interest only calculations can be achieved by entering 99999 into the N
4. As with the BA II Plus balloon payments are a little trickier but if you contact us we will be glad to [discount your balloon payment deal free](#).

While I have an HP 12C and have used it over the years I prefer the BA II Plus. Back in the '80's I used one of the first Business Analyst calculators that Texas Instruments ever made and loved it. When I finally wore it out I checked around to buy a new one and ended up contacting Texas Instruments directly to order one. I told them how I love the machine and finally wore it out and needed a new one and was ready to buy it and they took my shipping information and sent me a new one totally free. I told them that they didn't need to do that as the old calculator owed me nothing but they insisted and sent me the new BA II Plus totally FREE. Now that's customer service.

I hope you find this helpful in [discounting paper](#) or [notes](#) or loans etc. If we can help you discount them or buy them from you, please contact me at your convenience. We are a [mortgage buyer](#), a [note buyer](#), an [auto loan portfolio buyer](#), a [business note buyer](#) and an [accounts receivable factoring](#) source.

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