

[RETIRED] EXCEL: Build a Credit Card Calculator

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When you use an online credit card calculator, you input your starting balance, your minimum payment, and your interest rate, and the calculator does all the back end math for you. In this extension activity, you'll take steps to build your own credit card calculator using a spreadsheet¹. You can complete any of the options below, based on your expertise and comfort level with the activity.

The Scenario:

- You max out your credit card with \$1000 and then stop using the card, so you're not adding new purchases to it.
- Your credit card's minimum payment is equal to 3% of your current balance, and you never pay more than the minimum.
- The credit card has an APY of 24%, so you can use a **monthly** interest rate of 2% for this calculator.

Hints:

- Minimum monthly payment is determined by taking the month's beginning balance and multiplying by 3% or is set at \$15, whichever value is higher.
- Interest is determined by taking the month's beginning balance and multiplying by the monthly APR.
- Principal reduction is the residual amount determined by taking the payment and subtracting the interest.
- Only the amount paid toward principal goes toward paying down the balance.
- Round all answers to the nearest whole cent.

The Questions:

1. How many months will it take you to pay off the \$1000 balance?
2. How much total interest will you pay?

Option 1: SPREADSHEET GURU!

- Produce a spreadsheet, from scratch, that answers the two questions above.

¹ [How To: Spreadsheets Playlist](#)

See the next page if you need more assistance to complete the activity...

Option 2: Great with Spreadsheets but Need Some Help Getting Started

- Produce a spreadsheet, using the recommended column headers and two sample months below, that answers the two questions above.

	A	B	C	D	E	F
1	Month	Beginning Balance	Minimum Payment	Interest Paid	Principal Paid	Ending Balance
2	1	\$1,000.00	\$30.00	\$20.00	\$10.00	\$990.00
3	2	\$990.00	\$29.70	\$19.80	\$9.90	\$980.10

- Remember, with spreadsheets, you shouldn't need to do all of those calculations by hand. Use formulas to make the spreadsheet do all the hard work for you!

Option 3: Good with Spreadsheets but Need Some Help with the Formulas

- Produce a spreadsheet, using the formatting and formulas suggested below, that answers the two questions above.

Month	Beginning Balance	Minimum Payment	Interest Paid	Principal Paid	Ending Balance
1	\$1,000.00	\$30.00	\$20.00	\$10.00	\$990.00
2	\$990.00	\$29.70	\$19.80	\$9.90	\$980.10

Beginning Balance x 0.03	Beginning Balance x 0.02	Minimum Payment - Interest Paid	Beginning Balance - Principal Paid
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Option 4: Old School Math

- Use the hints in the pink box and the equations in Option 3 above to do the math for months 1-6 by hand or using a calculator. Fill in this chart with your answers:

Month	Beginning Balance	Minimum Payment	Interest Paid	Principal Paid	Ending Balance
1					
2					
3					
4					
5					
6					

- Then, answer the following:
 - What is your ending balance after paying your credit card bill for half a year?
 - What's your estimate for how many months it will take you to pay off the bill?
 - How are tools like spreadsheets useful for solving a problem such as this?

