

#1 How much of a loan can I get?

(Turn calculator ON by pressing key on lower left)

******First, press the **Orange Bar** key, then move your finger down and press the **C ALL** key.

How much of a car loan can you get today if you make a \$300 monthly payment for 36-months at 5.74% APR?

#2) Savings PMT: Saving to become a millionaire

First, press the **Orange Bar** key, then move your finger down and press the **C ALL** key.

How much of a payment do you have to save per month if you want to have \$1,000,000 in the future if you start saving at age 18 and save until you are 60, while investing in a stock index fund that averages a 10% annual return?

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_____			_____

YUDDY'S

HOME FURNISHINGS

COMPUTERS

LAPTOP

HP refurb 15.6" touch laptop - Peacock Teal

HP15DY5008DS

Stock Number 960004862

Serial Number 5CD241CVKT

Add it up!

YUDDY'S

is Better!

\$107.99

18.0 Months

Cash Price *TODAY* \$1,299.99

78 Weeks Total Cost	Cost of Lease Services
\$2,105.22	\$805.23

18.0 Months Total Cost	Cost of Lease Services
\$1,943.82	\$643.83

3 WAYS TO

\$SAVE

Ask How!

3 FORMAS DE AHORRAR (Pregunte Cómo!)

OWN IT

FASTER

FOR LESS!

Own It Faster

Posealo Más Rápidamente

Pay Monthly

Pague Mensualmente

Perfect Pay

Perfect Pay

#3) Compute I/YR: What Annual Interest Rate is being charged by a Rent-to-Own store?

First, press the Orange Bar key, then move your finger down and press the C ALL key.

Suppose you walk into Yuddy’s Rent-to-Own store in Round Rock and see an HP refurbished laptop you want. Today’s cash price is \$1,299.99. If you don’t have the cash today, they do advertise a financing plan. The Number of payments you will make is 18, in the amount of \$107.99 per Payment.

Question: What annual interest rate are you paying?

#4) PV of a Series of Payments: What is the Retirement Nest Egg Amount?

First, press the **Orange Bar** key, then move your finger down and press the **C ALL** key.

What amount will you need in the bank when you retire in order to make withdrawals of \$2,000 monthly (hint: payments) for 20 years if interest rates are 4% APR?

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_____			_____

#5) PV of a Series of Equal Payments: How much is your Lump Sum Offer Today?

First, press the **Orange Bar** key, then move your finger down and press the **C ALL**.

Your doorbell rings, and your Ring App shows the famous Steve Harvey standing there. Oh my word, The Publishers Clearinghouse Sweepstakes has just knocked on your door, and you've won the \$10,800,000 Sweepstakes! They give you the choice of \$30,000 per month (hint: payments) for 30 years, or a lump sum cash payout today.

If annual interest rates are 4.3871134%, how much will they offer you today (PV) as a lump sum payout? (This is the amount they need in the bank today to fund the payments to you.)

#6) Savings PMT: Start Saving at Different Ages

First, press the Orange Bar key, then move your finger down and press the C ALL key.

But don't press these keys again before you start working on b)

How much would your monthly savings payments be to reach \$1,000,000 in the future at age 65, with a mutual fund earning an average of 10% annual return, if you begin saving at the following ages?

a) Age 21

b) Age 51 (don't press the Orange Bar key, and C ALL key.)

a)

65-21=44

44x12=

b)

#7) Extreme TVM: Retirement Monthly Savings

First, press the Orange Bar key, then move your finger down and press the C ALL key.

Mythological figures like Thor, Yoda, Princess Celestia, and Gandalf had lifespans of 950 years or more. Let's use 950 years in this example. Suppose that these figures each want to have \$10,000,000 in the bank when they retire in the future. They are going to start saving monthly for retirement at age 100, and retire at age 700. Interest rates are 2.42% APR. How much of a payment do they each have to save per month?

#8) Extreme TVM: Lump Sum Deposit

First, press the Orange Bar key, then move your finger down and press the C ALL key.

What if instead of saving monthly, the mythological figures each wanted to make a single lump sum deposit in the bank (think Present Value) at age 100 and just let it grow to \$10,000,000 over 600 years, with interest remaining at 2.42% APR. How much would that deposit need to be in year 100?

#9) Monthly PMT: Compute a Car Payment, and after doing so we will add a “what if” scenario.

First, press the Orange Bar key, then move your finger down and press the C ALL.

What would the payments be on a \$15,000 car loan for 48 months at 7.42% APR?

But “what if” you could only afford \$300 per month. What is the number of months the loan would be for?

#10) Compute I/YR: Calculate the Return Rate used in a Dave Ramsey Video

First, press the **Orange Bar** key, then move your finger down and press the **C ALL** key.

The Dave Ramsey High School Curriculum has a video that begins with saying “Anyone can become a millionaire”... “If you invest just \$100 bucks a month, starting at age 16, you will be a millionaire (\$1,000,000 in the Future) by the time you are 55.” What annual return rate (I/YR) was he using?

#11) Compute I/YR: Round Rock “Stock Market Game” Rock Stars.

First, press the **Orange Bar** key, then move your finger down and press the **C ALL** key.

On September 20, 2023 a student in RRISD invested \$100,000 in an online simulation called The Stock Market Game. As of March 20, 2024 the value of the portfolio was \$211,266.34. What was the 6 month return (I/YR) on this investment? **(In this problem, since \$100,000 of the student’s money was taken out of their account and put into the stock market, the \$100,000 will be entered as a negative number.)**

#12) PV: Accept the Lump Sum or Take a Monthly Payout

First, press the **Orange Bar** key, then move your finger down and press the **C ALL** key.

Suppose a relative who has worked a long time for a large company is retiring. As part of their retirement benefits, the employer offers them the choice between the following retirement options:

- A. \$600,000 lump sum paid today. (So \$600,000 is the PV for this Option A.)
- B. Payments of \$3,000 per month guaranteed for 25 years. Interest rates are 4% annually. (Calculate the PV of this option.)

For simplicity, assume everything else is the same. Based strictly on the PV you calculated, which option has the higher PV and is therefore the better option to take?

_____		_____	
_____			_____

Bonus: FV of Savings: Monthly Savings Deposits for Car Down Payment

First, press the **Orange Bar** key, then move your finger down and press the **C ALL** key.

Let's say you put \$100 monthly in a savings account for 36 months that earns 4.17% APR to save for a down payment on a car.

Question: How much will your savings grow to in the future, as in the Future Value?

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