



PACIFIC NW
FEDERAL CREDIT UNION

Home Purchasing and Exponential Growth

Learning to calculate the true value of a purchase

Do you have a savings account?

If yes, have you ever noticed every few months your financial institution puts a few pennies in your account? HOW and WHY is it possible for them to gift everyone money if they aren't charging you to hold your money?

How does a financial institution, such as a Credit Union or Bank, make money?

Investments

Your financial institution doesn't simply take your money and put it into a vault with your name on it, they invest it!

Your money is used to generate more money through investments and lending.



So why give the pennies?

Financial institutions want to build a **trusting relationship** with their members by giving interest points back to their members.

But WHY is your trust needed?

Financial institutions know...



One day you will likely want to borrow money to make your own large purchase.



What are 3 major purchases you'll likely need a loan for?

3 Major
purchases
many people
take out loans
for include...



Going to College



Buying a Car



Purchasing a Home

Let's start by buying a house!

When you buy a home, you'll walk away knowing the price you'll pay for your home, right? There is a sale price and that is what you are agreeing to pay.

Let's call the price tag you sign up for "P" standing for Principal.



Principal

The principal is the actual value of the loan – picture it as the “brief case of money” the financial institution gives you in order to make your large purchase.

Note: As cool as it would be to walk away with a briefcase overflowing with cash – there is rarely an actual exchange of physical money. Rather a signing of documents between the lender and borrower.



Next, step in buying a home is figuring out your interest rate.

What determines your interest rate?

- The market sets the rate
- Length of loan – the financial institution lending you money is taking a greater risk for a longer loan. A 15-year loan will get a better rate than a 30-year loan.
 - Risk vs. Reward – more risk for the lender the greater the reward (higher interest rate).

Let's call the interest rate "r".



Our final piece of the puzzle?



Time

How quickly do you plan to pay off your loan?

Common types of loans?

- 30 year fixed
- 15 year fixed

Time = t

Now, back to buying our home!

We're going to buy a starter home in Portland – prices have exploded over the last 10 years so let's go back a few years and buy a \$200,000 2br/1 bath home.

$P = \$200,000$

You have great credit, so you get a great rate! 4%

$r = .04$

And it's your first time buying a home, so you'll be choosing a 30-year fixed mortgage

$t = 30$



Let's plug it in! $y = P(1 + r)^t$

$P = \$200,000$

$r = .04$

$t = 30$

$$y = 200,000(1 + .04)^{30}$$

$$y = 200,000(1.04)^{30}$$

$$y = 200,000(3.24)$$

$$y = 648,679$$

For your \$200,000 home you pay...

\$648,679

Don't Forget...

PARENTHESSES
EXPONENTS
MULTIPLY
DIVIDE
ADD
SUBTRACT

Why rate matters?

You may have heard the term,
“Lock it in!”

But what if you don't? What if
before you're able to lock in your
loan the rates rise to 4.5%?

Let's see what happens...



$$P = \$200,000$$

$$r = .045$$

$$t = 30$$

$$y = 200,000(1 + .045)^{30}$$

$$y = 200,000(1.045)^{30}$$

$$y = 200,000(3.745)$$

$$y = \$749,063$$

Before we paid, \$648,679.

Now, for your \$200,000 home
you pay a whopping...

\$749,063

Now you try...

1. Look online for two homes you would love to live in one day.
2. Find the principal (what the house is selling for)
3. Look up the current lowest rate possible.
4. Plug it in with a 30-year-fixed loan ($t=30$)
5. Try it with a 15-year-fixed loan ($t=15$)
6. What's the difference?

$$y = P(1 + r)^t$$

What are the
top 3 things you
can do when
buying a home
to increase the
value of your
money?



Save



Stick to your price point



Shop for the lowest rate



Mortgage Calculator

The equation we used is a simplified way to get a ballpark figure of the price you will pay over the life of a loan.

An actual loan calculator will take in additional information (such as fees, taxes and down payment).

Try the mortgage calculators at

<https://www.mortgageclick.org/calculators/purchasecalcs.asp>

to explore a purchase before you commit to one.