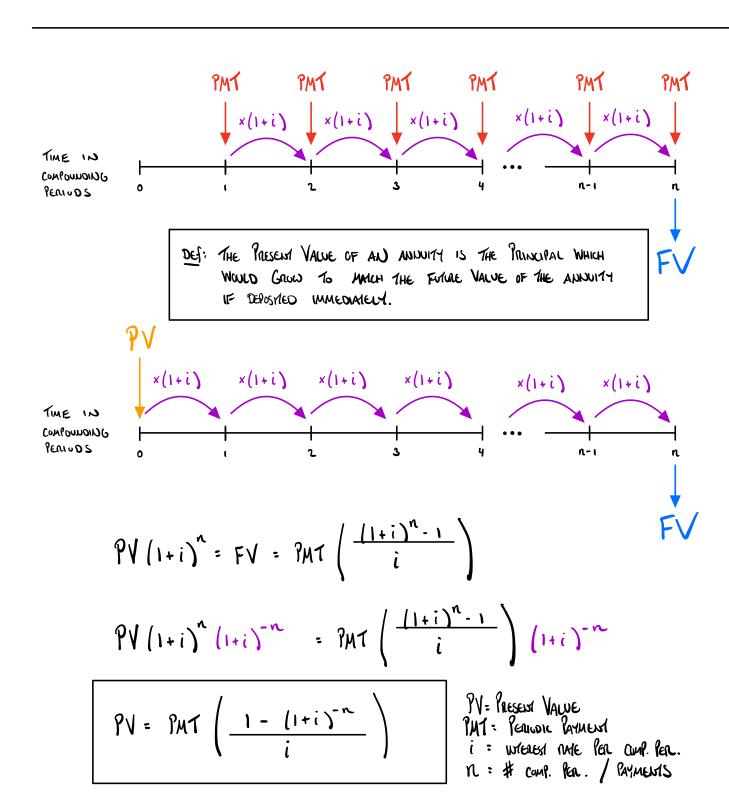
\$ 3.4 Present Value of AN ANNOHY

RECALL: AN ANNUMY IS A SECUENCE OF EQUAL SIZE PAYMENTS/WITHORAWALS WOO/OUT OF AN ACCOUNT EARNING COMPOUND INTEREST.

AN ORDINARY ANDUTY IS WHEN THE PAYMENTS/WITHDRAWALS OCCUR AT THE END OF EACH CONFOUNDING PERIOD.

THE FUTURE VALUE OF AN ANNUMY IS THE END BALANCE OF THE ACCOUNT CREATED FOR THE ANNUMY.

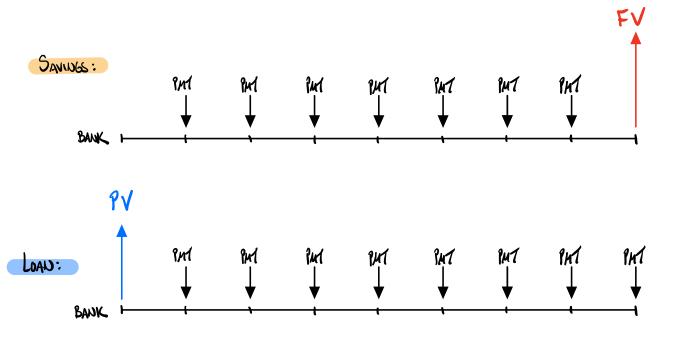


WHEN YOU CREATE AN ANXIFY SAVINGS ACCOUNT,
THE BANK IS PORCHASING THE ANXIOTY FROM YOU
AND PAYING YOU ITS FITURE VALUE IN THE FITURE,
AFTER PRYMENTS HAVE BEEN MADE.

Sauces

ALTERNATIVELY, THE BADK WILL PURLIASE THE SAME ADMITY FROM YOU TODAY FOR ITS PRESENT VALUE, BEFORE ANY PAYMENTS HAVE BEEN MADE.

CREDIT / LUM



- **30.** E-Loan offers a 36-month auto loan at 9.84% compounded monthly to applicants with fair credit ratings. If you have a fair credit rating and can afford monthly payments of \$350, how much can you borrow from E-Loan? What is the total interest you will pay for this loan?
- **32.** If you buy a computer directly from the manufacturer for \$3,500 and agree to repay it in 60 equal installments at 1.75% interest per month on the unpaid balance, how much are your monthly payments? How much total interest will be paid?
- **38.** The ad for a Bison SUV claims that a monthly payment of \$399 constitutes 0% financing. Explain why that is false. Find the annual interest rate compounded monthly that is actually being charged for financing \$23,997 with 72 monthly payments of \$399.

amortization formula:

$$PMT = PV \frac{i}{1 - (1+i)^{-n}}$$

$$23.997 \left(1+\frac{c}{12}\right)^{72} = 28.728$$

- 42. A recreational vehicle costs \$80,000. You pay 10% down and amortize the rest with equal monthly payments over a 7-year period. If you pay 9.25% compounded monthly, what is your monthly payment? How much interest will you pay?
- 44. Construct the amortization schedule for a \$10,000 debt that is to be amortized in six equal quarterly payments at 2.6% interest per quarter on the unpaid balance.

	А	В	С	D	E
1	Period	Payment	Interest	Unpaid Balance Reduction	Unpaid Balance
2	0				10000
3	1	1704.79	65	1639.79	8360.21
4	2	1704.79	54.341365	1650.448635	6709.761365
5	3	1704.79	43.61344887	1661.176551	5048.584814
6	4	1704.79	32.81580129	1671.974199	3376.610615
7	5	1704.79	21.947969	1682.842031	1693.768584
8	6	1704.79	11.0094958	1693.780504	-0.01192004172

https://docs.google.com/spreadsheets/d/ IIjPlrOmRnQq_o9yZlg5ocBmht4xncvLGbulvcnRwrOs/edit

- 46. A man establishes an annuity for retirement by depositing \$50,000 into an account that pays 7.2% compounded monthly. Equal monthly withdrawals will be made each month for 5 years, at which time the account will have a zero balance. Each year taxes must be paid on the interest earned by the account during that year. How much interest was earned during the first year? [*Hint:* The amount in the account at the end of the first year is the present value of a 4-year annuity.]
 - **52.** A family has a \$210,000, 20-year mortgage at 6.75% compounded monthly. Find the monthly payment. Also find the unpaid balance after

62. A person purchased a \$200,000 home 20 years ago by paying 20% down and signing a 30-year mortgage at 13.2% compounded monthly. Interest rates have dropped and the owner wants to refinance the unpaid balance by signing a new 10-year mortgage at 8.2% compounded monthly. How much interest will refinancing save?