QUALIFIER PLUS® IIIfx

ADVANCED REAL ESTATE FINANCE CALCULATOR with CASH FLOW and COMPLETE BUYER QUALIFYING

Model 3430
Pocket Reference Guide

CALCULATED INDUSTRIES®

QUALIFIER PLUS® IIIFX

The *QUALIFIER PLUS IIIFX* lets you pre-qualify clients and compute financial problems with ease!

Quickly Solve:
- Time-Value-of-Money (TVM) Problems: Find Loan Amount, Term, Interest, Payment, Future Value
- Restricted/Unrestricted Qualifying
- Required Income/Debt
- Qualifying Using Flexible Ratios
- Property Tax and Insurance, Mortgage Insurance
- P&I and PITI payment
- Sales Price and Down Payment
- Adjustable-Rate Mortgages
- Amortization and Remaining Balance
- Bi-Weekly Loans
- Date Math Problems

New!
- 80:10:10/80:15:5 Combo loans
- APR, including Mortgage Insurance
- Cash Flow/Investment Keys
- Income Tax Savings and Rent vs. Buy
- Interest-Only Payments
- LTV, Month Offset, Prepaid Interest

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KEY DEFINITIONS

Note: This is a short "reference" guide. Please see your Large User's Guide for details.

:	Colon separator (used for date, ARM adjustment, qualifying ratios and combo loans)
⟵	Backspace key; for backing up/deleting wrong entry
Rcl	Recalls or re-displays a value when followed by a chosen key (e.g., **Rcl** *Int* will display current interest value)
M+	Memory Function:

- **M+** Adds value on display to Memory

- **Shift M+** Subtracts value on display from Memory

- **Rcl M+** Recalls Memory Total

- **Rcl Rcl** Recalls and clears Memory Total

Shift	Sets number of displayed decimal places and activates 2nd functions
Shift −	Change sign
Shift ✕	Clear All *(Note: perform with caution as it will reset calculator to defaults)*
Shift =	Preference mode *(see Large User's Guide for details)*
Shift ÷	Payments per year *(Default 12, for monthly)*
Shift ←	Periodic *(sets per Period rather than per Year)*
Shift 000	Month offset
Shift :	Odd-days interest
Shift +	Tax bracket %
Shift Pmt	Estimated income tax savings/after-tax payment
Shift Price	Rent vs. Buy
Loan Amt	Loan amount
Pmt	P&I, PITI, total payment, and interest-only payment

Button	Description
Term	Number of years
Int	Annual interest rate or cash flow desired rate of return
Shift **Loan Amt**	Future value
Shift **Int**	APR (annual percentage rate), including mortgage insurance, if entered
Price	Property price
Dn Pmt	Down payment
Shift **Term**	Bi-Weekly loan
Amort	Amortization function
Shift **Amort**	Remaining balance
ARM	Adjustable-rate mortgage
Shift **ARM**	ARM decreasing interest % adjustment
Shift **%**	ARM lifetime interest cap%
Qual 1	Qualify based on 28%-36%
Qual 2	Qualify based on 29%-41%
Inc	Annual income

Key	Description
Debt	Long-term, *monthly* debt (e.g., car payment)
Shift 7	Property tax (enter as percent or dollar amount)
Shift 8	Property/homeowner's insurance (enter as percent or dollar amount)
Shift 9	Mortgage insurance (enter as percent or dollar amount)
Exp	Monthly expenses (such as homeowner's association dues)
Shift Dn Pmt	For entering (or finding) Loan-to-Value ratio and computing respective Down Payment and/or Loan Amount
1st Int: Term	Used to enter <u>1st TD</u> interest:term for Combo Loans
Shift 1st Int: Term	Used to enter <u>2nd TD</u> interest:term for Combo Loans

`80:10:10`	Combo loan function for an 80:10:10 LTV* loan; calculates 1st/2nd TD values and compares them to entered fixed-rate loan w/mortgage insurance.
	You may enter any LTV prior to pressing this key (e.g., LTV of 90:5, enter `9` `0` `·` `5` `80:10:10`).
`Shift` `80:10:10`	Combo loan function for an 80:15:5 loan; same function as above key
`Cash Flow`	Allows entry of up to 20 cash flows. Use the `Shift` `−` to label as positive or negative
`Shift` `Cash Flow`	Frequency — labels a cash flow that is consecutively repeating

IRR	Multi-function key that computes, upon consecutive presses: IRR%, NPV & NFV used for cash flow analysis. (The greater the IRR and NPV, the more attractive the investment)
Shift **6**	Clear cash flows

EXAMPLES

Date Example

If a 45-day escrow begins June 15 2004, what is the closing date and day?

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	0.00
Enter month	6 🖬	6-
Enter day	1 5 🖬	6-15-
Enter year	0 4	6-15-04
Add 45 days	➕ 4 5 ➖	FRI 07-30-04

Monthly Mortgage (P&I) Payment

Find the monthly (P&I) payment on a 30-year, fixed-rate loan of $265,000 at 6.75% annual interest:

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	0.00
Enter loan	2 6 5 000 Loan Amt	
		265,000.00
Enter term	3 0 Term	30.00
Enter interest	6 • 7 5 Int	6.75
Find P&I payment	Pmt	1,718.78

Loan Amount

Approximately how much can you borrow if the interest rate is 6.5% on a 30-year loan and you can afford $1,500 in monthly payments? What if the interest rate is lowered to 6%?

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	0.00
Enter interest	**6** **•** **5** **Int**	6.50
Enter term	**3** **0** **Term**	30.00
Enter payment	**1** **5** **0** **0** **Pmt**	1,500.00
Find loan	**Loan Amt**	237,316.23
Enter new interest rate	**6** **Int**	6.00
Find new loan amount	**Loan Amt**	250,187.42

Loan Amount Based on Sales Price and Down Payment

Find both $ down payment and loan amount if the sales price is $375,500 and you're planning to put 20% down:

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C On/C**	**0.00**
Enter price	**3 7 5 5 0 0 Price**	
		375,500.00
Enter down%	**2 0 Dn Pmt***	**20.00**
Find down$	**Dn Pmt**	**75,100.00**
Find loan	**Loan Amt**	**300,400.00**

You do not have to label the value as a percent.

Interest Rate

Find the interest rate on a mortgage if the loan amount is $98,500, term is 30 years and payment is $1,150 a month:

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C On/C**	**0.00**
Enter loan	**9 8 5 0 0 Loan Amt**	
		98,500.00
Enter term	**3 0 Term**	**30.00**
Enter payment	**1 1 5 0 Pmt**	**1,150.00**
Find annual interest	**Int**	**13.78**
Find periodic interest	**Int**	**1.15**

Term of a Loan

How long does it take to pay off a loan of $15,000 at 10% interest if you make payments of $200 each month?

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	0.00
Enter loan	**1** **5** **000** **Loan Amt**	15,000.00
Enter interest	**1** **0** **Int**	10.00
Enter payment	**2** **0** **0** **Pmt**	200.00
Find term in years	**Term**	9.85
Number of months	**Term**	118.19

Setting Tax and Insurance

Enter an annual property tax rate of 1.5%, a hazard insurance rate of 0.25% and a mortgage insurance rate of 0.50%:

STEPS	KEYSTROKES	DISPLAY
Enter tax%*	1 • 5 **Shift** 7	**1.50**
Enter insurance%*		
	• 2 5 **Shift** 8	**0.25**
Enter mortgage insurance%*	• 5 0 **Shift** 9	**0.50**

*Note: Do not label as a percent, or use the ❷ key; it is automatically registered as a percent.

*To Enter Tax/Insurance in Dollar Figures: Enter dollar values for tax/insurance in the same manner — e.g., to enter $5,500 estimated annual tax, enter 5 5 0 0 **Shift** 7.*

PITI Payment, Total Payment and Interest-Only Payment

- **Term: 30 years**
- **Interest: 6.25%**
- **Sales price: $325,000**
- **Down payment: 5%**
- **Property taxes: 1.3%**
- **Property insurance: 0.25%**
- **Mortgage insurance: 0.45%**

Find the Monthly PITI payment:

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	**0.00**
Enter term	**3** **0** **Term**	**30.00**
Enter interest	**6** **•** **2** **5** **Int**	**6.25**
Enter price	**3** **2** **5** **000** **Price**	
		325,000.00
Enter Down%	**5** **Dn Pmt**	**5.00**
Enter tax%	**1** **•** **3** **Shift** **7**	**1.30**
Enter insurance%		
	• **2** **5** **Shift** **8**	**0.25**
Enter MI%	**•** **4** **5** **Shift** **9**	**0.45**
Find loan	**Loan Amt**	**308,750.00**
Find P&I payment	**Pmt**	"run" **1,901.03**
Find PITI payment	**Pmt**	**2,436.60**

— DO NOT CLEAR CALCULATOR —

Find the total payment, if you estimate homeowner's association fees at $80/month. Also find the interest-only payment:

STEPS	KEYSTROKES	DISPLAY
Enter expenses	**8** **0** **Exp**	**80.00**
Find total payment	**Pmt** **Pmt** **Pmt**	**2,516.60**
Find interest-only payment	**Pmt**	**1,608.07**

Quarterly Payment

Find the quarterly payment on a 10-year loan of $15,000 with an annual interest rate of 12%:

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	**0.00**
Set to 4 payments per year	**4** **Shift** **÷**	**4.00**
Enter loan	**1** **5** **000** **Loan Amt**	**15,000.00**
Enter term	**1** **0** **Term**	**10.00**
Enter interest	**1** **2** **Int**	**12.00**
Find quarterly P&I payment	**Pmt**	**648.94**
Return to 12 payments per year	**1** **2** **Shift** **÷**	**12.00**

Amortization

- **Loan: $300,000**
- **Term: 30 years**
- **Interest: 7.5%**

Find total interest and principal for the life of the loan:

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	**0.00**
Enter loan	3 0 0 000 Loan Amt	
		300,000.00
Enter interest	7 • 5 Int	**7.50**
Enter term	3 0 Term	**30.00**
Find P&I pmt	Pmt	**2,097.64**
Find # pmts	Amort	**1-360**
Find total int.	Amort	**455,151.67**
Find total prin.	Amort	**300,000.00**
Find total pmts	Amort	**755,151.67**

Find all values for the first year:

Enter Year 1	1 Amort	**1-12**
Find total int.	Amort	**22,406.22**
Find total prin.	Amort	**2,765.50**
Find total pmts	Amort	**25,171.72**
Find balance	Amort	**297,234.50**
Rem. term	Amort	**29.00**
Tax deduct.	Amort	**6,273.74**

Note: Based on default 28% tax bracket and loan starting in January. To change these values, see Large User's Guide.

Bi-Weekly Loans

- **Loan: $212,500**
- **Term: 30 years**
- **Interest: 7.85%**

Find the Bi-Weekly term, savings, interest savings, total cost, and Bi-Weekly payment:

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	**0.00**
Enter loan	**2** **1** **2** **5** **0** **0** **Loan Amt**	
		212,500.00
Enter term	**3** **0** **Term**	**30.00**
Enter interest	**7** **•** **8** **5** **Int**	**7.85**
Find payment	**Pmt**	**1,537.09**
Find the Bi-Weekly term	**Shift** **Term**	**22.97**
Find total interest savings	**Term**	**94,305.23**
Find total interest paid	**Term**	**246,545.97**
Find total principal	**Term**	**212,500.00**
Find total principal plus interest	**Term**	**459,045.97**
Bi-Weekly P&I payment	**Pmt**	**768.54**

Appreciation

What will a $350,000 home be worth in 3 years, figuring an inflation or appreciation rate of 6%?

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	**0.00**
Set to 1 payment per year	1 Shift ÷	**1.00**
Enter present value	3 5 0 000 Loan Amt	**350,000.00**
Enter term	3 Term	**3.00**
Enter appreciation rate	6 Int	**6.00**
Find future value (FV)	Shift Loan Amt	**416,855.60**
Reset payments per year	1 2 Shift ÷	**12.00**

Retirement Savings

If you invest $10,000 today and $250 in monthly deposits, what will it be worth in 30 years at 7% interest*?

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	**0.00**
Recall payments per year	**Rcl** ⊟	**12.00**
Enter deposit	**1** **0** **000** **Loan Amt**	**10,000.00**
Enter term	**3** **0** **Term**	**30.00**
Enter interest	**7** **Int**	**7.00**
Find FV	**Shift** **Loan Amt**	**81,164.97**
Add to M+	**M+**	**M 81,164.97**
Clear	**On/C** **On/C**	**0.00**
Enter payment	**2** **5** **0** **Pmt**	**250.00**
Find FV	**Shift** **Loan Amt**	**-304,992.75**
Change minus sign to plus sign	**Shift** ⊟	**304,992.75**
Add to M+	**M+**	**M 304,992.75**
Find total and clear	**Rcl** **Rcl**	**386,157.72**

*If you deposit funds at the beginning of the month, you must set to BEG Mode (see Large User's Guide/Preference Settings).

**APR and Total Finance Charges,
Including Mortgage Insurance**

- **Loan: $250,000**
- **Term: 30 years**
- **Interest: 7%**
- **Cost: 1.5 points + $550**
- **Mortgage insurance/MI: $1,200/year**

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	0.00
Enter loan	2 5 0 000 Loan Amt	
		250,000.00
Enter term	3 0 Term	30.00
Enter interest	7 Int	7.00
Find P&I pmt	Pmt	1,663.26
Enter MI $	1 2 0 0 Shift 9	
		1,200.00

Find Loan Costs:

Recall loan	Rcl Loan Amt	250,000.00
Find points	✕ 1 • 5 % =	3,750.00
Add fees and find total	+ 5 5 0 =	4,300.00
Find APR	Shift Int	7.77
Find total chgs.	Int	389,072.25
Amt. financed	Int	245,700.00
Total cost	Int	634,772.25
P&I payment	Int	1,663.26
Monthly MI	Int	100.00
Find PIMI pmt	Int	1,763.26

ARM Payment — *Lifetime Cap*

- **Loan: $230,000**
- **Term: 30 years**
- **Interest: 7.25%**
- **Lifetime cap: 4%**
- **ARM Interest Adjustment: 1% per year**

Find the adjusted ARM payments through year six:

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	0.00
Enter loan	2 3 0 000 Loan Amt	
		230,000.00
Enter term	3 0 Term	30.00
Enter interest	7 • 2 5 Int	7.25
Find initial monthly P&I		
payment	Pmt	"run" 1,569.01
Enter interest		
cap	4 Shift %	CAP 4.00
Enter ARM		
parameters	1 : 1 ARM	1.00 - 1.00
Find 1st "adjusted"		
payment	ARM	"run" 1 1,724.90
Find 2nd "adjusted"		
payment	ARM	2 1,883.17
		(Cont'd)

(Cont'd)

STEPS	KEYSTROKES	DISPLAY
Find 3rd "adjusted" payment	**ARM**	3 2,043.26
Find 4th "adjusted" payment	**ARM**	4 2,204.68 M*
Find 5th "adjusted" payment	**ARM**	5 2,204.68 M*
Find principal at start of 6th year	**Rcl** **Loan Amt**	220,856.34
Recall current interest rate	**Rcl** **Int**	11.25
Recall remaining term	**Rcl** **Term**	25.00
Clear Cap	**0** **Shift** **%**	CAP 0.00

Note that the payment for 4th and 5th adjustments (corresponding to the 5th and 6th years) is the same because the lifetime cap was reached on the 4th adjustment. An "M" for "maximum" will appear in the display once the Cap is reached.

Estimated Tax Savings

- **Loan: $150,000**
- **Buyer's tax bracket: 28%**
- **Term: 30 years**
- **Interest: 8%**
- **Property taxes: $1,500**
- **Property insurance: $250**

Note: This is an estimate only.

What is this buyer's estimated income tax savings and "after tax" payment?

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	0.00
Enter term	3 0 Term	30.00
Enter interest	8 Int	8.00
Enter tax$	1 5 0 0 Shift 7	1,500.00
Enter insurance$		
	2 5 0 Shift 8	250.00
Enter loan	1 5 0 000 Loan Amt	
		150,000.00
Find P&I pmt	Pmt	"run" 1,100.65
PITI payment	Pmt	1,246.48
Enter tax bracket	2 8 Shift Pmt	28.00
Find annual tax savings	Pmt	3,767.32
Monthly tax savings	Pmt	313.94
Net payment	Pmt	932.54

Rent vs. Buy

- **Term: 30 years**   **Tax: 1.25%**
- **Interest: 7.5%**   **Insurance: 0.35%**
- **Down: 10%**   **Tax bracket: 30%**

If your client is currently renting a home for $1,250/month, find the comparable home sales price and loan amount that he or she could afford:

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	0.00
Enter term	3 0 Term	30.00
Enter interest	7 • 5 Int	7.50
Enter down%	1 0 Dn Pmt	10.00
Enter tax%	1 • 2 5 Shift 7	1.25
Enter insurance%	• 3 5 Shift 8	0.35
Tax bracket%	3 0 Shift +	30.00
Enter rent to find comparable home price	1 2 5 0 Shift Price	
		221,894.90
Find comparable loan amount	Price	199,705.41
Find PITI pmt	Price	1,692.23
Find annual tax savings	Price	5,306.75
Monthly tax savings	Price	442.23
Reset tax%	2 8 Shift +	28.00

Setting Qualifying Ratios

Enter new qualifying ratios of 30% for Income and 38% for Debt in **Qual 1** *:*

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	0.00
Enter qualifying ratios	**3** **0** **.** **3** **8** **Qual 1**	
		30.00-38.00
Return ratios to defaults	**2** **8** **.** **3** **6** **Qual 1**	
		28.00-36.00

Qualifying Loan Amount

- **Buyer's income: $75,000**
- **Monthly debt: $500**
- **Down$: $5,000**
- **Property taxes: 1.5%**
- **Property insurance: 0.25%**
- **Mortgage insurance: 0.6%**
- **Monthly association dues: $50**
- **Term: 30 years**
- **Interest: 7.5%**
- **Qualifying ratios: 28%: 36%**

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Find the Qualifying Loan Amount, Price and Total Payment:

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	**0.00**
Enter income	**7** **5** **000** **Inc**	**75,000.00**
Enter debt	**5** **0** **0** **Debt**	**500.00**
Enter down$	**5** **000** **DnPmt**	**5,000.00**
Enter tax%	**1** **•** **5** **Shift** **7**	**1.50**
Enter ins.%	**•** **2** **5** **Shift** **8**	**0.25**
Enter MI%	**•** **6** **Shift** **9**	**0.60**
Enter association dues	**5** **0** **Exp**	**50.00**
Enter interest	**7** **•** **5** **Int**	**7.50**
Enter term	**3** **0** **Term**	**30.00**
Display ratios	**Qual 1**	**28.00 - 36.00**
Find qualifying loan amount	**Qual 1**	**189,119.31**
Find price	**Price**	**194,119.31**

—DO NOT CLEAR CALCULATOR —

Find the monthly P&I payment and total payment:

STEPS	KEYSTROKES	DISPLAY
P&I payment	**Pmt**	**1,322.35**
PITI payment	**Pmt**	**1,700.00**
Total payment	**Pmt**	**1,750.00**

"Restricted" vs. "Unrestricted" Qualifying

- **Buyer's income: $68,000**
- **Monthly debt: $750**
- **Down$: $5,000**
- **Property taxes: 1.5%**
- **Property insurance: 0.25%**
- **Mortgage insurance: 0.6%**
- **Monthly association dues: $50**
- **Term: 30 years**
- **Interest: 7.5%**
- **Qualifying ratios: 28%: 36%**

Find the "Restricted" qualifying loan amount, actual ratios, "Unrestricted" loan amount and maximum allowable debt. (Re-enter 0.6% mortgage insurance rate, $50 association dues and $5,000 down.)

Note: If you are not continuing from the previous problem, you'll need to re-enter interest, term, tax/insurance.

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	**0.00**
Recall interest	**Rcl** **Int**	**7.50**
Recall term	**Rcl** **Term**	**30.00**
Recall property tax%	**Rcl** **7**	**1.50**
		(Cont'd)

(Cont'd)

STEPS	KEYSTROKES	DISPLAY
Recall property insurance%	**Rcl** **8**	**0.25**
Re-enter MI%	**•** **6** **Shift** **9**	**0.60**
Re-enter homeowner's dues	**5** **0** **Exp**	**50.00**
Enter down	**5** **000** **DnPmt**	**5,000.00**
Enter income	**6** **8** **000** **Inc**	**68,000.00**
Enter monthly debt	**7** **5** **0** **Debt**	**750.00**
Display qualifying ratios	**Qual 1**	**28.00 - 36.00**
Find "Restricted" qualifying loan amount	**Qual 1**	**137,725.41**

— DO NOT CLEAR CALCULATOR —

STEPS	KEYSTROKES	DISPLAY
Find actual ratios		
	Qual 1	**22.76-36.00**
Find "Unrestricted" loan		
amount	**Qual 1**	**170,870.75 LA INC***
Find maximum allowable monthly		
debt	**Qual 1**	**453.33**

*Note: The "INC" tells you this unrestricted Qualifying Loan Amount is based on the buyer's Income Ratio — therefore, the restricted Qualifying Loan Amount is based on the buyer's Debt Ratio. This means that if they pay off their monthly debt (to $453/month or lower) they may qualify for a mortgage loan of approximately $170,000 or more and afford a $175,000 home (if they put approximately $4-$5K down).

**Qualifying Comparison
(2 Ratios at Once)**

- **Buyer's income: $55,000**
- **Monthly debt: $500**
- **Property taxes: 1.25%**
- **Property insurance: 0.3%**
- **Mortgage insurance: 0.45%**
- **Monthly association dues: $50**
- **Term: 30 years**
- **Interest: 6.25%**

*Qualify this buyer based on both 28%:36%
and 29%:41% ratios:*

STEPS	KEYSTROKES	DISPLAY
Clear	**On/C** **On/C**	**0.00**
Enter income	**5** **5** **000** **Inc**	**55,000.00**
Enter debt	**5** **0** **0** **Debt**	**500.00**
Enter tax%	**1** **•** **2** **5** **Shift** **7**	**1.25**
Enter insurance%		
	• **3** **Shift** **8**	**0.30**
Enter MI%	**•** **4** **5** **Shift** **9**	**0.45**
Enter monthly association		
dues	**5** **0** **Exp**	**50.00**
Enter term	**3** **0** **Term**	**30.00**
Enter interest	**6** **•** **2** **5** **Int**	**6.25**
Display Qual 1		
ratios	**Qual 1**	**28.00-36.00**

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STEPS	KEYSTROKES	DISPLAY
Find Qual 1 qualifying loan	**Qual 1** **"run"**	140,595.95
Find Qual 1 P&I payment	**Pmt**	865.67
Find Qual 1 PITI Payment	**Pmt**	1,100.00
Find total payment	**Pmt**	1,150.00

— DO NOT CLEAR CALCULATOR —

STEPS	KEYSTROKES	DISPLAY
Display Qual 2 ratios	**Qual 2**	29.00-41.00
Find Qual 2 qualifying loan	**Qual 2** **"run"**	163,496.04
Find Qual 2 P&I payment	**Pmt**	1,006.67
Find Qual 2 PITI payment	**Pmt**	1,279.17
Find total payment	**Pmt**	1,329.17

Income Required and Allowable Monthly Debt

- **Sales price: $300,000**
- **Down%: 20%**
- **Property taxes: 1.5%**
- **Property insurance: 0.25%**
- **Mortgage insurance: 0%**
- **Term: 30 years**
- **Interest: 5.88%**

Find the income required to finance a $300,000 home and the maximum allowable debt.

Note: Clear mortgage insurance rate to zero, as the down payment is 20%.

STEPS	KEYSTROKES	DISPLAY
Clear	On/C On/C	0.00
Enter interest	5 • 8 8 Int	5.88
Enter term	3 0 Term	30.00
Enter tax%	1 • 5 Shift 7	1.50
Enter insurance%		
	• 2 5 Shift 8	0.25
Clear MI%	0 Shift 9	0.00
Enter price	3 0 0 000 Price	
		300,000.00
Enter down%	2 0 Dn Pmt	20.00
Find down$	Dn Pmt	60,000.00

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STEPS	KEYSTROKES	DISPLAY
Find loan	**Loan Amt**	**240,000.00**
Display qualifying ratios	**Qual 1**	**28.00 - 36.00**
Find income required	**Qual 1**	**79,626.76**
Find maximum allowable monthly debt	**Qual 1**	**530.85**
Find P&I payment	**Pmt**	**1,420.46**
Find PITI payment	**Pmt**	**1,857.96**

80:10:10 Combo Loan vs. Fixed-Rate Loan with Mortgage Insurance

Compare an 80:10:10 Combo Loan vs. a Fixed-Rate loan w/mortgage insurance. The loan parameters are:

	FIXED w/PMI	COMBO (1st/2nd)
Loan	250,000	250,000
Interest	6.50%	6.00% – 8.50%
Term	30	30 year– 15 year
PMI	0.62%	--
LTV	95%	80% – 10%

STEPS	KEYSTROKES	DISPLAY

1. Enter Fixed-Rate Loan Values and Find Total Payment:

Clear	**On/C** **On/C**	**0.00**
Enter loan	**2** **5** **0** **000** **Loan Amt**	**250,000.00**
Enter interest	**6** **.** **5** **Int**	**6.50**
Enter term	**3** **0** **Term**	**30.00**
Enter MI%	**.** **6** **2** **Shift** **9**	**0.62**

(Cont'd)

(Cont'd)

STEPS	KEYSTROKES	DISPLAY
Clear Tax	**0** **Shift** **7**	**0.00**
Clear Insurance	**0** **Shift** **8**	**0.00**
Solve for payment	**Pmt**	**1,580.17**
Solve for PITI (including PMI)	**Pmt**	**1,709.34**

2. Enter Combo Loan Values:

Enter 1st TD Interest
and Term   **6** **⬚** **3** **0** **1st Int: Term**

                             6.00-30.00

Enter 2nd TD Interest
and Term   **8** **•** **5** **⬚** **1** **5** **Shift** **1st Int: Term**

                             8.50-15.00

3. Find Combo Loan Values:

Find blended interest rate for
1st/2nd TD   **80:10:10**   **6.18**

Find equivalent interest rate for
fixed-rate loan with mortgage
insurance   **80:10:10**   **7.27**

Find 1st/2nd TD combined monthly
payment   **80:10:10**   **1,605.87**

(Cont'd)

STEPS	KEYSTROKES	DISPLAY
Find equivalent payment for fixed-rate loan with mortgage insurance	80:10:10	**1,709.34**
Display monthly savings over fixed-rate loan with mortgage insurance	80:10:10	**103.46**
Display adjusted 2nd term (if savings applied to 2nd TD)	80:10:10	**8.71**
Find 1st TD loan amount	80:10:10	**222,222.22**
Find 2nd TD loan amount	80:10:10	**27,777.78**
Find 1st TD payment	80:10:10	**1,332.33**
Find 2nd TD payment	80:10:10	**273.54**
Redisplay LTV	80:10:10	**80.00-10.00**

*Use **Shift** 80:10:10 for 80:15:5 loans. See Large User's Guide for entering other LTV Combo loans.*

Cash Flow

A real estate investor wishes to purchase a home for $225,000 and rent it out. He'd like a return of 9% and expects to sell it after 5 years for $275,000. He expects the annual cash flows below. Find the IRR, NPV & NFV.

	Annual Cash Flow
Year 1	$16,000
Year 2	$16,600
Year 3	$16,900
Year 4	$17,200
Year 5	$275,000

STEPS	KEYSTROKES	DISPLAY
Clear CF	**Shift** **6**	**0.00**
Set 1 payment		
per year	**1** **Shift** 🔁	**1.00**
Enter initial investment as		
cash outlay	**2** **2** **5** **000** **Shift** **➖** **Cash Flow**	
		C-0 **-225,000.00**
Enter 1st CF	**1** **6** **0** **0** **0** **Cash Flow**	
		C-1 **16,000.00**
Enter 2nd CF	**1** **6** **6** **0** **0** **Cash Flow**	
		C-2 **16,600.00**
		(Cont'd)

(Cont'd)

STEPS	KEYSTROKES	DISPLAY
Enter 3rd CF	① ⑥ ⑨ ⓪ ⓪ **Cash Flow**	C-3 16,900.00
Enter 4th CF	① ⑦ ② ⓪ ⓪ **Cash Flow**	C-4 17,200.00
Enter last CF	② ⑦ ⑤ **000** **Cash Flow**	C-5 275,000.00
Find IRR	**IRR**	9.83%
Enter desired rate of return and find NPV	⑨ **Shift** **IRR**	7,616.73
Find NFV	**IRR**	11,719.29
Re-display desired rate of return	**IRR**	9.00%
Clear registers	**Shift** **X**	0.00

Analysis: _The investment is attractive, as the IRR is greater than the desired rate of return._

Note: See Large User's Guide for more examples.

APPENDIX

Default Settings

- 12 Periods per Year
- End Mode
- Property Tax/Insurance = Clears Upon `Off`
- Mortgage Insurance = Clears upon `On/C` `On/C`
- Month Offset of January (1)
- Two Fixed Decimal Places
- Amortization Range = Specified Year (Ent-Ent)
- Qual 1 Ratios = 28%-36%
- Qual 2 Ratios = 29%-41%
- Qualifying Ratios Displayed 1st

Decimal Place Setting

To set the number of decimal places displayed:

`Shift` `5`	**0.00000**
`Shift` `4`	**0.0000**
`Shift` `3`	**0.000**
`Shift` `2`	**0.00**
`Shift` `1`	**0.0**
`Shift` `0`	**0.**
`Shift` `•`	**floating point**

Preference Settings

To access the Preference Mode, press **Shift**, then **⊟**, then keep pressing **⊟** to toggle through the preference settings listed. Press the **⊕** key to advance through the sub-settings. Use the **⊟** key to back up within the sub-settings. See Large User's Guide for details.

Batteries

Replacing the Batteries: Slide open and remove the battery door (located on upper backside of calculator). Remove the old batteries. Insert two new LR44 button-cell batteries, making sure they're facing positive-side (+) up. Close the battery door.

Reset

You may at times want to reset your calculator to its factory settings (i.e., reset all registers and Preference Settings to their original default values). To do this, turn off the calculator, hold down the **⊠** key, and then turn it back on.

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