



hp calculators

HP 12C [Mortgage with a Balloon Payment](#)



[Your Checklist For Calculating a Mortgage Balloon Payment](#)

[More Practice Solving for Balloon Payments](#)

See also the other available mortgage topics, such as [Mortgage/Loan Basics](#), [Amortization](#), and [Mortgages with Loan Fees \("Points"\)](#).

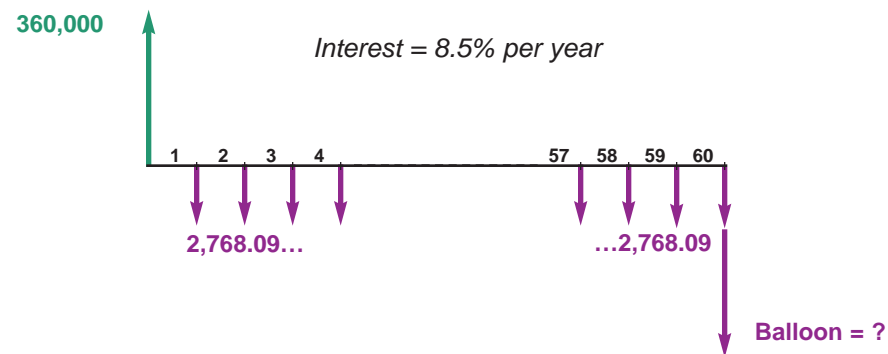


HP 12C Mortgage with a Balloon Payment

Your Checklist For Calculating a Mortgage Balloon Payment:

(Before you read on here, be sure that you understand all the material presented in [Time Value of Money Basics](#) and [Mortgage/Loan Basics](#).)

As you know, it's always best to draw a cash flow diagram—a picture of any investment situation, and that includes a loan or mortgage. Here's a typical example of a real estate mortgage with a balloon payment after a few years:



The idea of a balloon payment is that the first few years of the mortgage are exactly like a full-term fully-amortizing loan, with the monthly payment calculated as if there will be 20 or 25 or 30 years' worth of them. But then, at some prescribed period in the loan before that full term, the entire remaining balance becomes due and payable. The problem, therefore, is how to calculate that balance due. Here's your checklist:

1. **Calculate the normal fully-amortizing payment amount.** In this example, you would press $\boxed{9} \boxed{END}$, 30 $\boxed{9} \boxed{12x}$, 8.5 $\boxed{9} \boxed{12\div}$ 360000 \boxed{PV} 0 \boxed{FV} , \boxed{PMT} (result: **-2,768.09**). For a reminder about mortgage loan basics and how to calculate a fully-amortizing payment like this (i.e. the payment amount that would normally pay off the loan entirely over its full term), see [Mortgage Loan Basics](#).
2. **Key in the number of years in the mortgage before the balloon payment and press** $\boxed{9} \boxed{12x}$. In this example, you would press 5 $\boxed{9} \boxed{12x}$.
3. **Press \boxed{FV} to calculate the remaining balance due.** In this example, you would press \boxed{FV} to get **-343,764.96**.



 hp calculators

HP 12C Mortgage with a Balloon Payment

A couple of comments about balloon payments.

First, a terminology question: Sometimes you may see the phrase “balloon payment” applied to the total amount of money due on the balloon due date. That amount would be the sum of the remaining balance you calculate above *and the normal PMT due for that period*. (Since the payment mode is in arrears, this PMT is due at the same time as the remaining balance—see the diagram above.) However, the checklist above computes the amount due *over and above* the normal PMT due at that same time (which is the definition of Future Value on the HP 12C—be sure to read the discussion on [Time Value of Money Basic](#)), and that’s what balloon payment means here. So don’t get confused: Various other persons or institutions may refer to “balloon payment” as the entire sum paid at the time—the *combination* of the PMT plus the Future Value.

Also, this note: The HP 12C computes every value—including financial registers—to ten digit accuracy, but of course, nobody makes mortgage payments to any more precision than 2 decimal places (dollars and cents). The difference is usually just pennies, but it can cause consternation to see any discrepancy between your calculator and your mortgage statement. (The same concern is actually built into the **AMORT** function, by the way—see [Amortization](#) for more about this.)

Therefore, to be more consistent with real-life mortgage contracts, you may wish to insert an extra step between steps **1** and **2** in the check list:

- 1a. Re-enter (by hand) the PMT amount calculated in step 1, and press PMT.**
In the above example, you would press 2768.09 **CHS** **PMT**.



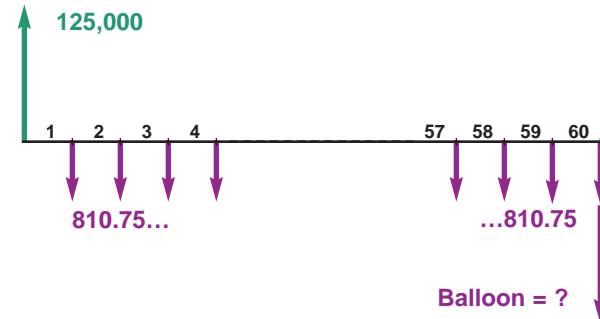
hp calculators

HP 12C Mortgage with a Balloon Payment

More Practice Solving for Balloon Payments

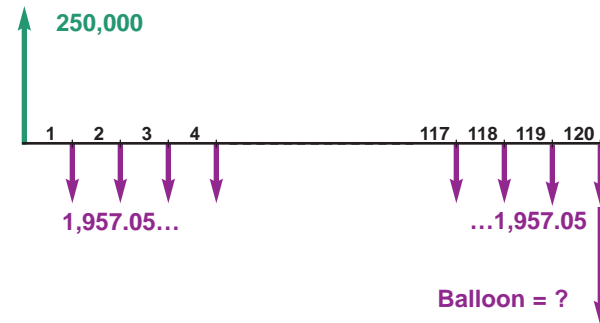
Problem: A 30-year, \$125,000 mortgage at 6.75% balloons in 5 years. Find the balloon amount.

Solution: (9 END, if necessary)
 30 (9 12x)
 6.75 (9 12÷)
 125000 (PV)
 0 (FV)
 (PMT)... (Result: -810.75)
 5 (9 12x)
 (FV)... Result: -117,344.64
 (If you re-enter the PMT manually, 810.75 (CHS) (PMT), the balloon will be -117,344.47.)



Problem: A 20-year, \$250,000 mortgage at 7.125% balloons in 10 years. Find the balloon amount.

Solution: (9 END, if necessary)
 20 (9 12x)
 7.125 (9 12÷)
 250000 (PV)
 0 (FV)
 (PMT)... (Result: -1,957.05)
 10 (9 12x)
 (FV)... Result: -167,622.00
 (If you re-enter the PMT manually, 1957.05 (CHS) (PMT), the balloon will be -167,621.92.)



Of course, there are many other calculations possible with mortgages. See, for example, [Amortization](#) and [Mortgages with Loan Fees \("Points"\)](#).