

How Expensive is a Mortgage?

Directions: Read the following case study. Study the chart, summary and conclusions, then answer questions 1-7.

Shelly and Keith Zak want to purchase a home that costs \$200,000 and have saved \$20,000 for a down payment. They will have to borrow the remaining \$180,000. After visiting several different institutions who offer mortgages, they decided to go with a bank that charges an interest rate of 4%. Now they have to decide if they will take the loan out for 15 or 30 years. If they take the loan for 15 years, they will have a bigger monthly payment to make but will pay less in interest, actually a considerable amount less. Using a mortgage calculator (<http://www.mortgagecalculator.org/>), they discovered the following:

| Amount Borrowed | Length of the Loan | Interest Rate | Monthly Payment | Total Interest Paid | Total Paid to Bank (principal + interest) |
|-----------------|--------------------|---------------|-----------------|---------------------|--|
| \$180,000 | 15 years | 4% | \$1,331.44 | \$59,658.89 | \$239,658.89 |
| \$180,000 | 30 years | 4% | \$859.35 | \$129,365.11 | \$309,365.11 |

Summary

- If the loan is taken for 15 years, Shelly and Keith will have paid the bank \$180,000 (principal or the amount borrowed) plus \$59,658.89 in interest for a total of \$239,658.89.
- If the loan is taken for 30 years, Shelly and Keith will have paid the bank \$180,000 (principal) plus \$129,365.11 in interest for a total of \$309,365.11.
- It would cost \$69,706.22 **more** to take the loan out for 30 years as opposed to 15.

Conclusions

- Mortgage loans are expensive
- The longer the loan, the more you pay.

Answer the questions below.

1. If the interest rate is higher, will they pay more or less in interest?
2. If the interest rate is lower, will they pay more or less in interest?
3. If they borrow more money, will they pay more or less in interest?

4. If they borrow less money, will they pay more or less in interest?

5. Visit <http://www.mortgagecalculator.org/>

Enter home value **\$200,000**
Enter credit profile **good**
Enter loan amount **\$180,000**
Choose **new purchase** for loan purpose
Enter an interest rate of **5%**
Enter **30 years** for the term of the loan.
Leave the **start date** as it is
Enter **0** for property tax and PMI
Calculate

Now, complete the chart below

| Amount Borrowed | Length of the Loan | Interest Rate | Monthly Payment | Total Interest Paid | Total Paid to Bank (principal + interest) |
|------------------------|---------------------------|----------------------|------------------------|----------------------------|---|
| \$180,000 | 30 years | 5% | | | |

6. What is the total interest paid?

7. How does it compare to 4%?