

Practice Quiz 7: Mortgage Borrowing

1. Jack and Jill are looking for a new home and find a \$400,000 house that they like. Their bank offers them a 30-year mortgage at a 7% APR with a 15% down payment and no points. Calculate the monthly payment for this mortgage.
2. Their bank also offers Jack and Jill a 15-year mortgage at a 6.25% APR for the \$400,000 house, also with a 15% down payment and no points. Calculate the payment on this mortgage and compare the total interest cost of this mortgage to the total interest cost of the 30-year mortgage in problem 1.
3. If Jack and Jill are willing to pay two points, their bank will drop the APR on the 30-year mortgage in problem 1 to 6.5%. Calculate the implicit APR on this mortgage assuming Jack and Jill stay in the home for (a) 30 years, (b) 10 years, and (c) 4 years.
4. If a student graduates with a \$12,000 in student debt at a 5% APR to be repaid over 10 years, what will her monthly payment be?
5. Fifteen years ago, the O'Connell family took out a \$400,000 30-year mortgage at a 5.4% APR. They are now considering refinancing with a new 15-year mortgage at a 4.9% APR. They plan to sell the house and move into a new one in 8 years after putting their daughter through school. Assuming \$8,000 in closing costs, What is the implicit APR for refinancing? Should the O'Connell family refinance?
6. Albert just graduated from a top law school and was hired by a successful practice in his home city with a starting annual salary of \$120,000, but carries \$30,000 in student debt at a 6% APR to be repaid over 10 years. Albert has no other debt. Albert wants to buy a house worth \$420,000. Property tax in his city is 2% and homeowner's insurance is 0.5% of a home's value. With a down payment of 20%, his bank will provide him a 30-year mortgage at a 4.5% APR. If his bank requires a housing expense ratio of 28% and a maximum total expense ratio of 35%, will Albert be approved for this loan?