

Financial Math Matters

A Jack and Jill Adventure

The following is a story following the lives of Jack and Jill, a newlywed couple just learning to navigate their financial lives together. You get to go along with them on the journey! As you work your way through, consider the questions posed in light of the financial mathematics you have learned in class and don't hesitate to do a little research if you encounter a term you can't remember or a topic you haven't quite seen. That's how life is. There will be times in each of our lives when we have to dig a little into a topic we didn't quite know fully before. So, join Jack and Jill as they learn to navigate life!

Jack and Jill are looking at a car loan for a used Volkswagen Jetta. Loan A and Loan B are options below. Find the interest they will pay on each loan.

Loan A - \$5000 at 4% simple interest for 3 years

Loan B - \$5000 at 3.75% interest compounded annually for 3 years

According to your answers above, which loan is the better deal for Jack and Jill? Why?

After Jack and Jill pay off their car, they decide they want to go on a BIG vacation. Jack has just received a BIG commission check at work. They are looking into an Alaskan cruise in 18 months. How much would they need to save now at 2% compounded quarterly if the trip will cost them \$8,000 (paid at the time of the trip)?

After their trip to Alaska, Jack and Jill find out that they are expecting their first baby! They are excited and run out to Babies-R-Us and buy baby furniture. They find the perfect bedroom set but realize that it will cost \$2500 for all the pieces they want to buy. The store is offering a deal. The couple can pay 10% down with 5% add-on interest for the next six months. In their flurry of excitement, they agree.

How much is their down payment?

How much will they be financing?

What will the finance charge be?

If they pay the furniture off in 6 equal monthly installments, how much will each payment cost them?

What will be the total price (ignoring taxes) that they will pay for the furniture?

After Jack's and Jill's baby, Joe Joe, is born, they decide they need a bigger car because after all, if Jill is going to be a soccer mom, she's going to need a minivan. They decide on a used Dodge Caravan with a purchase price of \$10,500. They are offered \$2500 trade-in for the Jetta they bought in problem number one. The loan they are offered is 6% add-on interest for 48 months.

How much are Jack and Jill going to finance?

What will be the finance charge on the minivan?

Find the APR, to the nearest half-percent, for their loan.

What will their regular payments be for the 48-month loan?

Jack has another BIG commission check at work 12 months into their loan. He decides to pay off the load early. What is the unearned interest on their loan.

As Joe Joe turns two, Jill finds out baby #2 is on the way. Jack and Jill look around their two-bedroom apartment and decide it's time to move up and out into a house. Because of Jack's periodic large commission checks, they have been able to save some on their dream home. They negotiate a price of \$150,000 on their dream home. The credit union requires a 20% down payment on the home and will finance the remainder on a fixed rate mortgage of 4% for 15 years.

What is Jack and Jill's down payment amount?

How much will Jack and Jill be financing?

Find the regular monthly payment needed to amortize the principal and interest.

Fill in the first two months of the following amortization schedule below.

Amortization Schedule

Payment Number	Total Payment	Interest Payment	Principal Payment	Balance of Principal
1				
2				

Jill starts searching for homeowner's insurance and finds her best option will cost them \$1200 per year. She also finds that her taxes will cost her \$2000 per year. What will be the total monthly payment the couple will pay for their new home?