

Practice Quiz 3: Consumer Borrowing

1. Janice uses her credit card, which carries a monthly APR of 18%, for all of her everyday purchases. She eventually reaches her credit limit of \$4,000 and begins to re-evaluate her credit habits. After considering her budget, she determines to dedicate, at most, \$80 a month to paying down her credit card balance. If she pays \$80 a month without any new charges, how long will it take Janice to pay down her balance?

2. Janice's sister, Jennifer, recently graduated from college and has \$4,000 in ten-year student loans carrying a 5% APR. The loans require a monthly payment of \$42.43, but Jennifer determines that she would like to pay down her loan more quickly and so decides to pay \$80 a month. How long will it take Jennifer to pay down her balance if she pays \$80 a month?

3. Mr. Oldweather, a small businessman, owns and runs a gizmo manufacturing firm. To build his gizmos, he purchases gears from a regular supplier. Each box of gears costs \$2,000 and the supplier allows Mr. Oldweather to pay for a box in four quarterly installments of \$500. But to encourage Mr. Oldweather to pay up-front, the supplier offers him a \$200 discount per box if he pays today. Mr. Oldweather read in a small business article that it's good for cash flow to delay payment to your suppliers and so he never takes the discount and instead always pays in installments. Effectively, Mr. Oldweather is buying gears on credit with a short-term loan – what is the implicit APR he pays?

4. Larry borrows \$600 for two weeks from a local payday lender. His fee for borrowing the \$600 for two weeks is \$108, which is due in two weeks along with the original \$600. What is the APR on this payday loan? How much would Larry pay in fees if he rolled over the loan every two weeks for a year by paying only the \$108 every two weeks?

5. An online rent-to-own store offers a 47" LED flat-screen TV for 91 weekly payments of \$22.99. The Rent-to-Own store lists the retail price, at which it may be purchased outright, of the TV at \$1,199.99. Rent-to-own stores often overstate the retail price of their products and this same TV can be purchased directly for \$749.00 from a popular online retailer. What is the implicit APR on this contract given the retail price of \$1,199.99? What is the APR given a retail price of \$749.00?

6. A student **beginning her senior year** in college borrows \$5,500 using a Perkins loan with a 5% APR. Because of the subsidized interest, interest will not accrue during her final year of school, and because of the grace period, no interest will accrue for the first year after she graduates. Interest will start accruing one year after she graduates, and she will pay down the loan in ten annual installments beginning with a payment three years from now. Compute the implicit interest rate on this loan.