**9.4 Borrowing Money – Overview**

**Key Ideas / Formulas**

**Paying off credit cards** – Use the equation below to find how long it takes to pay off a credit card.

**Text

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**Ex:** How long will it take to pay off a $2200 purchase on a credit card with an APR of 19.99% with $40 monthly payments?

**Fixed installment loans** (present value annuity) – Receive money now, in the present, and use the regular payments to pay off the future value of the loan (principal and interest).

**Down payments** – Down payments are often required on large loans (house, car, etc.). These reduce the principal of the loan, and the amount that remains is *financed* (borrowed with interest).

**Diagram

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**Ex:** What is the monthly payment for an auto loan if the purchase price is $34,000 with a 20% down payment and a 3.99% APR on a 72-month loan?

**Mortgage payments** – If we want to stay within the recommended monthly mortgage payment (25% of your monthly take-home pay), we can use this formula to find the most house you can afford.

**Chart

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**Ex:** What is the maximum purchase price of a home if your monthly take-home pay is $3220 and you can get a 3.37% APR on a 30-year mortgage?

**Examples**

**Example 1**: Natalie bought a new car for $26,000. She paid a 10% down payment and financed the remaining balance for 36 months with an APR of 4.8%. Assuming she made monthly payments, determine the total cost of Natalie’s car. Round your answer to the nearest cent, if necessary. Then, determine how much interest Natalie paid.

**Example 2**: Jake bought several concert tickets for a total of $900. He used a credit card that has an APR of 17.77%. How much will he pay in total to pay off the purchases if he makes monthly payments of $30? Round the number of monthly payments up to the nearest whole number. Round your final answer to the nearest whole number, if necessary.