

Cost of Being Late Compound Interest Simulator

NAME _____

Congratulations, you received your first credit card with the following terms and conditions:

- Credit limit \$1,000
- Introductory rate of 10% APR (Annual Percentage Rate) or for the first 6 months on cash advances, transfers, and purchases.
- Default rate (rate paid after the promotional period expires) 22% APR
- Late fees for payments not received on or before the due date: \$40 and the interest increases to 28% APR.

You are so excited to receive your first credit card that you decide to take you friends out to dinner but you want to look good so you first go shopping for a new outfit. Your charges for your purchases are reflected in the table on the next page. Lets calculate the real cost of this night with friends. We will make it easy and assume that there will be no additional charges.

Use the Compound Interest Simulator: <http://illuminations.nctm.org/ActivityDetail.aspx?ID=172> to answer the questions based on the program input instructions. **Note:** A purchase, fee, or interest charge causes the balance to increase and the available credit to decrease. A payment reduces the balance and increases the available credit.

1. Today you made the following purchases and charged them using your new credit card: \$175 to Teen Fashion Express, \$89 to The Shoe Chalet, \$39 to Looking Good Accessories, and \$229 for dinner for you and your friends at The Happening Dinner Palace. What was the total amount charged to your card?
2. Enter the total amount charged in the Initial Balance field then put \$20 in the Monthly Payment field and 10% in the Annual Interest Rate field, and choose 1 month from the Timespan drop down menu. Interest is then calculated on the remaining balance. What is your new outstanding balance?
3. Change the Timespan from 1 month to 6 months, now what is your outstanding balance?
4. In month 7 you are late with your payment so you are assessed a \$40 late fee and your annual interest rate jumps to 28%. Add \$40 to your outstanding balance from question 3 and input this new figure into the Initial Balance field, then change the annual interest rate to 28% and leave the timespan at 6 months. What is your new outstanding balance?
5. What was the overall cost of buying on credit?