LOAN RANGER

How much do you really pay when you use a credit card?

name

date

Act One: Something Borrowed

1 Imagine two friends each buy an iPod Touch for $300, and pay with a credit card. When this happens, the credit card company pays Apple, and the friends become indebted to the credit card company. For every year they don't pay back the debt, the company charges them interest: a percentage of what they owe. The interest rate is called an **annual percentage rate** (**APR**), while the amount owed is called the **balance**.

Using the table below, calculate how much each person would owe over time if neither made any payments to the credit card company. After six years, how much would the iPod end up costing?

Customer	Annual Rate	Balance After				
		0 years	1 year	2 years	3 years	6 years
A	18%					
B	36%					

2 In reality, credit card companies don't charge interest every *year*; they charge interest every *month*. To determine the **monthly interest rate**, divide the APR by 12.

Complete the table below. Do you think it matters how often credit card companies charge interest? Explain.

Customer	Monthly Rate	Balance After				
		0 months	1 month	2 months	3 months	12 months
A						
B						

3 Write an expression for the balance after *m* months with an APR of *r*. If neither friend made any payments for an entire decade, how much would the $300 iPod end up costing in total?

Act Two: Payback Is a Cinch

4   In reality, customers aren't supposed to pay nothing. Instead, credit card companies typically charge a **minimum monthly payment**; if a customer doesn't pay *at least* this amount, the company may charge additional fees.

Imagine the two friends sign up for a new card with an 18% APR and a $10 minimum payment, and use this card to make the $300 purchase. If the first friend pays the minimum each month, while the second friend pays $20 each month, what will their balances be after one month?

5   Assume that both friends continue to make the same monthly payments as before. Calculate how much each person will have **paid in total** and what their **balances** will be after one, two, three, and twelve months.

After a year, how much of the original $300 will each have paid off...and how much will he have spent to do this?

	0 months	After 1 month		After 2 months		After 3 months		After 12 months	
	Balance	Total Paid	Balance	Total Paid	Balance	Total Paid	Balance	Total Paid	Balance
A									
B									

6   Calculate how long it will take each friend to pay off his debt, and how much he'll end up paying in total for the $300 iPod. Based on this, how much would you say an item really "costs" when you pay with a credit card?