Name:_____KEY_____ Date:_____

Paying Off Consumer Debt

Fill out the table for the following problems:

1. Suppose that your credit card calculates finance charges using an APR of 43.2%. Your previous statement showed a balance of \$250. After seeing this, you decide to make a payment of \$105. Later that day you buy \$150 worth of shoes in which you purchased with your credit card. Use this information to fill out the table below:

	Previous balance	Payments	Purchases	Finance charge	New Balance
Month 1					

- We start by filling out the table with the information we are given:
  Previous balance= \$250
  Payments= \$105
  Purchases=\$150

	Previous balance	Payments	Purchases	Finance charge	New Balance
Month 1	\$250	\$105	\$150		

- Now we compute the finance charge.
  We have an APR of 43.2%. We convert this into a decimal which is 0.432.

  Recall that Finance Charge= $\frac{\text{APR}}{12} \times$ (Previous balance–Payments+Purchases).
  Then

$$\begin{aligned}\text{Finance charge} &= \frac{0.432}{12} \times (\$250 - \$105 + \$150) \\ &= 0.036 \times \$295 = \$10.62\end{aligned}$$

	Previous balance	Payments	Purchases	Finance charge	New Balance
Month 1	\$250	\$105	\$150	\$10.62	

- Lastly, we compute the new balance. Recall that

  New Balance= Previous balance–Payments+Purchases+Finance Charge

  Then

$$\text{New balance} = \$250 - \$105 + \$150 + \$10.62 = \$305.62$$

	Previous balance	Payments	Purchases	Finance charge	New Balance
Month 1	\$250	\$105	\$150	\$10.62	\$305.62

Name:_____KEY_____ Date:_____

2. Continuing the same scenario from #1. Suppose that you make a payment of $125. You later use your credit card to purchase a textbook that costs $290. Use this information to complete the following table:

	Previous balance	Payments	Purchases	Finance charge	New Balance
Month 1	$250	$105	$150	$10.62	$305.62
Month 2					

- We start by filling out the table with the information we are given:
  Previous balance= $305.62
  Payments= $125
  Purchases=$290

	Previous balance	Payments	Purchases	Finance charge	New Balance
Month 1	$250	$105	$150	$10.62	$305.62
Month 2	$305.62	$125	$290		

- Now we compute the finance charge.
  We have an APR of 43.2%. We convert this into a decimal which is 0.432.

  Recall that Finance Charge= $\frac{\text{APR}}{12} \times$ (Previous balance–Payments+Purchases).
  Then

$$\begin{aligned}\text{Finance charge} &= \frac{0.432}{12} \times (\$305.62 - \$125 + \$290) \\ &= 0.036 \times \$470.62 = \$16.94\end{aligned}$$

  Remark: When calculating $0.036 \times \$470.62$ you get $16.94232 but since we are talking about money, we must round to the nearest cent which is $16.94.

	Previous balance	Payments	Purchases	Finance charge	New Balance
Month 1	$250	$105	$150	$10.62	$305.62
Month 2	$305.62	$125	$290	$16.94	

- Lastly, we compute the new balance. Recall that

  New Balance= Previous balance–Payments+Purchases+Finance Charge

  Then

$$\text{New balance} = \$305.62 - \$125 + \$290 + \$16.94 = \$487.56$$

	Previous balance	Payments	Purchases	Finance charge	New Balance
Month 1	$250	$105	$150	$10.62	$305.62
Month 2	$305.62	$125	$290	$16.94	$487.56

Name:_____KEY_____ Date:_____

3. Suppose we have a card with an APR of 33%. The minimum payment is 9% of the balance. Suppose we have a balance of \$322 on the credit card. We decide to stop charging and to pay it off by making the minimum payment each month. Calculate the new balance after the first minimum payment is made and then calculate the minimum payment that is due the next month.

The first minimum payment will be 9% of the balance. We first convert 9% into a decimal which is 0.09. We also are given that we begin with a balance of \$322. To compute 9% of the balance we compute $0.09 \times \$322 = \$28.98$. Hence, the first minimum payment is \$28.98.

In order to compute new balance we must compute the finance charge.
Our previous balance is \$322
We made a minimum payment of \$28.98
After the first minimum payment we decided to stop using our credit card to make purchases, so our purchases are \$0.
We use this to compute the finance charge:

$$\begin{aligned}\text{Finance charge} &= \frac{0.33}{12} \times (\$322\text{-}\$28.98\text{+}\$0) \\ &= 0.0275 \times \$293.02 = \$8.06\end{aligned}$$

We now calculate the new balance using the finance charge

$$\text{New balance=}\$322\text{-}\$28.98\text{+}\$0\text{+}\$8.06\text{=}\$301.08$$

Thus, the minimum payment for the next month is 9% of our balance. However, the next month we start off with a balance of \$301.08. So the minimum payment is $0.09 \times \$301.08 = \$27.10$