Extra Practice Managing Credit Cards

1. Calculate the daily interest rate for each credit card annual interest rate. Express each answer as a decimal rounded to 6 decimal places.
   a) 22.5%  
b) 14.9%  
c) 28.3%  
d) 17.7%  
e) 19.3%  
f) 26.6%

2. Interest is charged daily on each overdue credit card balance. Calculate the amount of interest paid in each situation. Use a TVM Solver to check. Remember N is number of years so for a N=20/365. For PV put – value. CPY is 365(compounded daily)
   a) Sam’s credit card has an overdue balance of $1862. Interest is charged for 20 days at an annual rate of 21.5%.
   \[
   \begin{align*}
   N &= 1862 \times \frac{20}{365} \\
   I &= 1862 \times 0.215 \times \frac{20}{365} \\
   &\approx 60.26 \\
   \text{Interest} &\approx 60.26 \\
   \end{align*}
   \]

   b) Carine’s credit card has an overdue balance of $4000. Interest is charged for 45 days at an annual rate of 18.7%.
   \[
   \begin{align*}
   N &= 4000 \times \frac{45}{365} \\
   I &= 4000 \times 0.187 \times \frac{45}{365} \\
   &\approx 109.7 \\
   \text{Interest} &\approx 109.7 \\
   \end{align*}
   \]

3. Malik’s credit card payment was due on January 14th. He made his payment on February 5th at a bank machine. Four days are required to process the transaction. Malik’s credit card offers a 7-day grace period before interest is charged. For how many days will Malik be charged interest?

4. a) Suggest a reason why someone would choose a credit card that has an annual fee.
   
   b) Suggest a reason why someone would choose a credit card with no annual fee.
5. A credit card statement shows a grace period of 15 days. It was issued on March 26th. What is the latest date the payment can be made so no interest is charged?

March 26 + 15 days = April 11th

6. On a certain credit card, the minimum monthly payment required is the greater of $25 or 3.5% of the balance. Determine the minimum payment owed on each balance.

a) $350.85

350.85 \times 0.035 = 12.28$

25 = 12.28

b) $4106.82

4106.82 \times 0.035 = 143.74$

8. Derek thought he had a plan to get "free stuff". He applied for two different credit cards and was approved for both. He made a major purchase on each card, for about half of the credit limit on the card. Then, he took cash advances from each card to pay the minimum payment on the other card. He thought that this plan meant he would never need to use his own money to make payments on either card. Explain the flaw in Derek's thinking.

Always need to pay back interest

9. Some credit card companies offer a prepaid credit card. A fixed amount of money can be paid onto the card, and every purchase is deducted from the balance until the balance reaches zero. More money can then be added to card. Gerald says this type of credit card is more like a bank account debit card than a regular credit card. Do you agree with Gerald? Explain why or why not.