Grade 11 College Math   Day: <u>Lesson 6 - 2</u>

Unit: Personal Finance   Topic: <u>Savings</u>
                                                           <u>Alternatives</u>

⌗ *homework assignment:* <u>**Lesson 6 - 1**</u>

⌗ *note:* <u>**Savings Alternatives**</u>

   Banks pay interest when you deposit your money into one of their accounts. Most financial institutions provide services for fees which might include providing cheques, statements, loans, or investments. Administrative fees are most common in investments while service charges are most common in accounting. For example,

   a) Jaime earns 0.78% daily on her account. How much would she need to invest in order to withdraw $1000 in two years?

$$2 \ years = 2(365) = 730 \ days$$
$$\frac{0.0078}{365} = .0000213$$
$$P = A(1+i)^{-n}$$
$$P = 1000(1+0.0000213)^{-730}$$
$$P = \$984.57$$

   b) If Jaime's same account also charges services charges for maintenance on the account at a rate of $3.25 per month, is the low interest she can accumulate worth the service charges she pays? Justify your response.

$$2 \ years = 24 \ months$$
$$24(3.75) = \$90$$
$$amount \ of \ interest \ earned = 1000 - 984.57$$
$$= \$15.43$$
owes $90 - 15.43 = \$74.57$

Therefore, she does not make money leaving her investment in the bank and actually owes the bank $74.52 in service charges.

⌗ *homework assignment*: <u>**Lesson 6 - 2**</u>

<u>**Lesson 6 – 2:**</u>

1. **Calculate the FV for each amount if the interest is calculated daily for each scenario.**
a) **$2000 at 1% interest for July and August**   b) **$3500 at 2% for April**

c) **$1500 at 0.25% interest for October**   d) **$2500 at 0.75% for once week**

2. **The bank charges $6.95 for up to 12 transactions per month plus $0.75 for each additional transaction. Determine the fee for each number of transactions in one month.**
a) **14**   b) **21**   c) **18**   d) **12**

3. **A different bank charges $9.95 for the first 20 transactions per month plus $0.95 for each additional transaction. Determine the service charge for the following:**
a) **18**   b) **21**   c) **23**   d) **12**

4. **Gabbi has $600 in a savings account that pays 3.25% interest per year, compounded daily.**
   a) **How much money does Gabbi have at the end of May?**

   b) **How much interest will Gabbi earn in one year?**

Use the table for questions

Banking Option 1	Banking Option 2	Banking Option 3
$9.75 per month for the first 10 transactions, $1.25 for each additional transaction	$14.75 per month for the first 25 transactions, $1.25 for each additional transaction	$24.95 per month for an unlimited number of transactions

5. In a typical month, Jack uses an instant teller twice a week. Each month his car payment and his car insurance are automatically deducted from his account.
   a) How many transactions does Jack make in a typical month?

   b) Calculate the total cost and the cost per transaction for each option.

6. Alexa is paid bi-weekly and uses her debit card two or three times per week.
   a) In October, Alexa noticed that she was charged $9.75 and $7.50 in service charges. Which banking option is she using?

   b) How many transactions were made in Alexa's account?

   c) Which banking option would be best for Alexa?

7. Chuck's pay is automatically deposited bi-weekly and he uses his debit card 5 times per week.
   a) How many transactions does Chuck have each month?

   b) What would his service charges be for each banking option? Which option would be best for chuck?