Math 100L: Lesson 6

Appointment 1: Study Skills; Excel Spreadsheets

Read the following information to your Speaking Partner:

Study Skills

When explaining something new, instructors often compare the new idea to something the students already know. For example when Brother Baird taught the concept of adding "like" numbers, he compared it to adding apples and apples. It is easier to remember something if we link it to something we already know. Try to link new information to personal experiences as much as possible. A picture in your mind is a powerful learning tool.

Examples from Brother Baird's video lectures:

That number is so big—we have created a monster.
That's just like adding apples and oranges.
The pull between positive and negative numbers is similar to a tug of war.

Flashcard vocabulary

- to highlight (v)
- to display (v)
- automatic (adj)
- principal (n)
- considerable (adj)
- to illustrate (v)
- finance (n)
- investment (n)
- period (n)
- annual (adj)

Helpful Vocabulary

- to punch (v)
- to hit (v)
- laborious (adj)
- cursor (n)
- magic (n)
- hefty (adj)
- to scoot (v)
- to drag (v)
- probably (adv)
- to compare (v)
- to perform (v)
- salary (n)
- entirely (adv)
- to manage (v)
- essential (adj)
- tight (adj)
- principle (n)
- staircase (n)
- subsequent (n)
- fast-food outlet (n)
- grocery store (n)
- from scratch (n)
- tremendous (adj)
- pancake (n)
- mix (n)
- significantly (adv)
- household (adj)
- peace of mind (n)
Discussion Questions

- Do you recognize the comparisons above from Brother Baird’s lectures?
- Name some other comparisons Brother Baird has made in his lectures.
- Do you find the comparisons helpful?
- When learning geometric shapes, would it be helpful to compare it to something that you know? Compare the shapes of a cylinder and a cone to something you already know.
- There are five financial formulas in Excel that you are to become familiar with. It is always easier to remember new information if you can associate it with something you know. Discuss with your speaking partner mental pictures you could create to remember what these financial formulas calculate. Ask your speaking partner to explain any terms you do not understand.
  
  FV (Future Value): this formula calculates the future value of an investment that grows at a certain interest rate for a certain number of periods.

  PMT (Payment): This formula calculates the payment for a certain loan or investment based on a certain interest rate for a certain number of periods.

  PV (Present Value): This formula calculates the present value of an investment or loan based on a future amount of the money received or paid, given a certain interest rate and a certain period of time.

  RATE (Interest Rate): This formula calculates the interest rate per period for a certain loan.

  NPER (Number of Periods): This formula calculates the number of periods for a certain investment or loan at a certain interest rate.

Excel Spreadsheets

This week you will be learning how to create an Excel spreadsheet to work with variables in formulas. Discuss the following points with your Speaking Partner.

- Do you feel comfortable using Excel?
- Do you understand how to create a spreadsheet?
- Are you comfortable with the vocabulary of Excel (such as the following)?
  - Spreadsheets
  - Cells
  - Columns
  - A1, A2, B1, etc.
  - Format cells
  - Symbols for adding, subtracting, multiplying, and dividing
  - The equals sign and its importance
  - What is the advantage of using Excel instead of a calculator?
  - Have you ever used Excel before taking this class?
  - Have you ever used Excel to make lists of information? To keep track of addresses?
  - Show your Speaking Partner how to use Excel to enter the formula for finding the perimeter of an area. Practice doing it several times so that you use the correct English terminology.
Pronunciation Practice

Practice saying the following numbers and phrases used in Excel.

<table>
<thead>
<tr>
<th>In Cell</th>
<th>Enter</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate Per Hour:</td>
<td>E3</td>
<td>15</td>
</tr>
<tr>
<td>Hours Per Year:</td>
<td>E5</td>
<td>=40*52</td>
</tr>
<tr>
<td>Income – First Year of Employment (Beginning):</td>
<td>E7</td>
<td>=E3*E5</td>
</tr>
</tbody>
</table>

Yearly Income Calculation

Lifelong Income Calculation—Future Value
Rate: .04 or 4%
Nper: 50
Pmt: 31200
PV: 0
Lifelong Income: $4,763,213.01

Numbers
.01p + .1(q – 13)
.01p + .3q + .35
$60,174.51
–87
28x + .34
–36.0 degrees Celsius
453,678.2

Appointment 2: Variables Visual Chart; Budget

Bring your variables visual chart (or your ideas for it, if you have not completed it) to this speaking partner visit.

Read the following information to your Speaking Partner.

Variables Visual Chart

This week your assignment is to make a visual chart that includes everything you have just learned about variables and how they are used in formulas. The information for this visual chart can be found in the Variables and Formulas Summary. Your Visual Chart should include the information in that summary. Put examples and notes that would help you on an exam. Divide up one side of one paper into sections. Include notes, examples, difficult problems, and pitfalls. Put everything you need to be able to do well on


Discussion Questions:

- What is a “pitfall”?
- What is the purpose of a visual chart?
- How does it help to write out information in which you had difficulties?
- Show your visual chart to your speaking partner and describe the information you have included.
- If you have not completed your visual chart, discuss the information on the Variables and Formulas Summary. Describe the formulas and the areas you need to work on.

Budget

This week your portfolio assignment is to make sure that your “Budget and Expense” spreadsheet is current—that you have kept track of all your spending.

Read the following information to your Speaking Partner:

Everybody uses the money they receive. They spend it, save it, give it away, or invest it. When you budget, you are just planning how you will use your money before you actually use it. There are four basic steps to budgeting: planning, record keeping, summarizing, and evaluating.

The first step is planning. To plan, you must know two things: how much money you will earn and how much you will spend.

The second step is record keeping. Keep track of how you actually spend your money.

The third step is summarizing. You will gather the records of your actual expenses and total the results by category.

The final step is evaluating. Compare your actual expenses with your planned expenses. If there is a difference between the actual and budgeted amount, you will need to determine the reason.

With the understanding that comes from your evaluation, you are now ready to prepare your next budget. Budgeting is done in cycles. A budget cycle occurs each time you complete the four budgeting steps. After you have gone through a complete budget cycle, you will be able to adjust your new budget based on your actual experience. Each budget will be a little better than the last one. As you learn and become more experienced, your increased skill will allow you to meet more of your financial goals.

(“Basic Budgeting,” Ensign, June 1993)
Discussion Questions

- What does it mean to evaluate your budget?
- Have you been able to stay within your budget?
- What is the biggest expense on your budget?
- What changes do you need to make to your budget?

Pronunciation Practice

*Compare the vowel sounds “e” as in “sheep” and “i” as in “ship.”*

Listen to your Speaking Partner say the following words and then repeat them.

<table>
<thead>
<tr>
<th>“E” sound</th>
<th>“I” sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>middle</td>
</tr>
<tr>
<td>sheep</td>
<td>ship</td>
</tr>
<tr>
<td>leave</td>
<td>live</td>
</tr>
<tr>
<td>machine</td>
<td>minute</td>
</tr>
<tr>
<td>be</td>
<td>busy</td>
</tr>
<tr>
<td>believe</td>
<td>women</td>
</tr>
<tr>
<td>reach</td>
<td>rich</td>
</tr>
<tr>
<td>people</td>
<td>miss</td>
</tr>
<tr>
<td>eat</td>
<td>it</td>
</tr>
<tr>
<td>heel</td>
<td>hill</td>
</tr>
<tr>
<td>reason</td>
<td>risen</td>
</tr>
<tr>
<td>deed</td>
<td>did</td>
</tr>
<tr>
<td>steal</td>
<td>still</td>
</tr>
<tr>
<td>each</td>
<td>itch</td>
</tr>
</tbody>
</table>

Look at the following list of words. Take turns with your Speaking Partner making up sentences with the words.

- leave
- live
- rich
- reach
- ship
- sheep
- fill
- feel