

ClassPad 101

ClassPad 101

for ClassPad Version 3.00+

Lesson 8

Introduction to Spreadsheet

Welcome

In this lesson, we will learn the basic features of the Spreadsheet application. The ClassPad's spreadsheet is similar to Excel's spreadsheet. Most of what you learn in this lesson you will also be able to do in Excel. Spreadsheets let you organize your data in columns and rows, and provide many useful ways for you to analyze your data.


Lesson Goals

- To learn the basic terminology of a spreadsheet
- To become comfortable moving around a spreadsheet
- To become comfortable entering data and formulas
- To understand how to graph data

In Lesson 8, you will learn how to:

- Input text and data into a spreadsheet
- Name a cell
- Select and copy cells
- Identify and edit the active cell
- View a cell's contents
- Input a formula
- Graph data

Upon completion of this lesson, you will be able to answer the following questions:

1. How is a cell named?
2. How do we know which cell is active?
3. How many rows and columns are in Spreadsheet?
4. How can we tell if a cell is a math cell or a text cell?
5. How do we select a block of cells?
6. What does the  toolbar button do?
7. How can we change our data from within the graph window?
8. What is the first character needed when we enter a formula?

Time required

About 45 minutes.

Getting Started

When you first open the Spreadsheet application you will see a number of rows and columns (a kind of grid), a menu and toolbar. Each small part of the grid is called a *cell*. Each *cell* in a spreadsheet has a name. A *cell name* is defined by its column letter and row number. A *cell's name* is often referred to as the *cell's address*.

Naming or giving a cell an address:

- **B3** represents the name or address of a *cell* in the second column (column B) and the third row.
- **C9** means the *cell* at the intersection of column C and row 9
- In general, a *cell name* or *address* is its column letter (as a capital) followed by its row number.
- Note that rows are horizontal and columns are vertical.

Cell **B3** is currently selected (active).

Columns are represented with capital letters.

Rows are represented with numbers.

The active cell shows in the status bar




| | A | B | C |
|----|---|---|----|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | 25 |
| 10 | | | |
| 11 | | | |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |

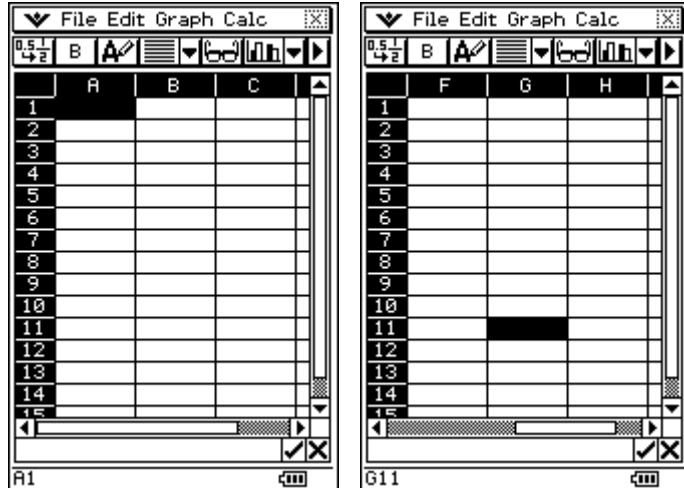
C9 contains the number 25.

PART I

In this part, we will learn how to move around a spreadsheet.

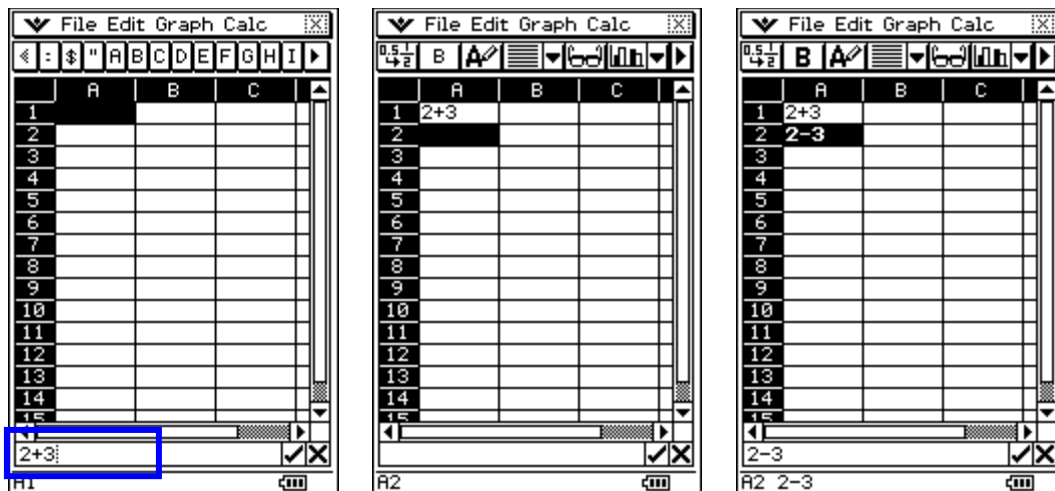
1. Different ways to Move the Active Cell

- Click  and then 
Spreadsheet
- Select **Edit/Clear All**
- Notice **A1** is the active cell
- Press your keyboard's **arrow keys** (up, down, right and left)
- Click on the cursor pad's 
arrows
- Press **EXE**








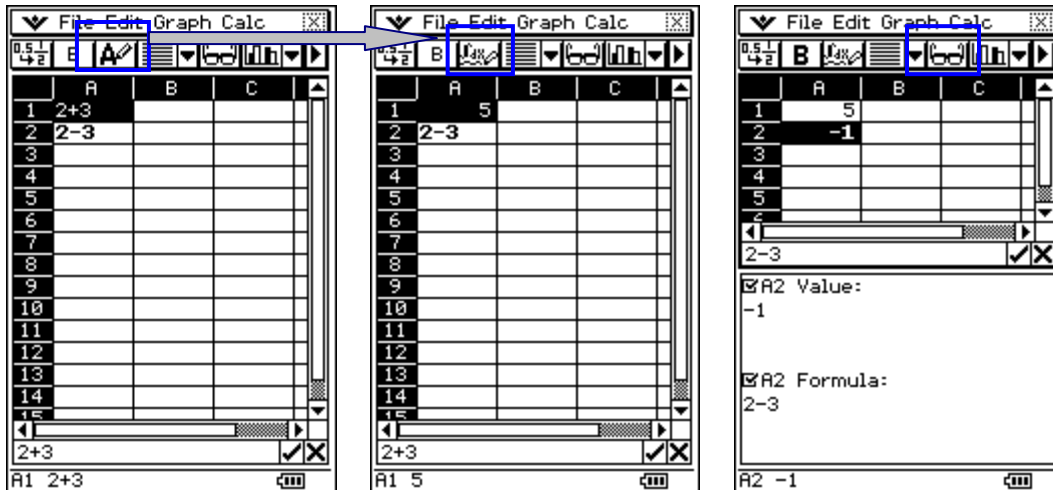
2. Entering Text into Cells

- Scroll your spreadsheet so that cell **A1** shows (if needed)
- Click in cell **A1** to make it the active cell and **type in 2+3**
- Note: As you type notice the numbers appear in the **edit box** not in the **cell**
- Press **EXE** (this puts what you typed into **A1** and makes **A2** active)
- Type in 2-3** with cell **A2** active
- Click directly on cell A2** instead of EXE (this is another way to put data from the edit box into the active cell)
- With cell A2 active, **click** the **B** toolbar button to make 2-3 bold



3. Changing a Text Cell into a Math Cell

- Click on cell **A1** to make it the *active cell*
- Click the  button to change **A1** to a math cell (notice the  changes to ; the math mode button)
- Click on cell **A2** to make it the *active cell* and change it to a **math cell**
- With **A2** active, click on the  button to open the *Cell Viewer* window
- To close the Cell Viewer window, click the  button again




PART I

Practice Exercises

Before beginning the practice exercises, open a word document, type in the following information and then *save it as Lesson8 in your CASIO folder within My Documents*:

- Date: (enter today's date)
 - To: (put your instructor's name here)
 - From: (put your name here)
 - Re: Lesson 8
1. Please open the Spreadsheet application and clear the window.
 2. Make cell **B7** the active cell.
 3. Get a **screen capture** and paste it into your Lesson 8 document (under a title of PART I).
 4. Type the word **Sum** into cell **A1** and **make it bold**.
 5. Get a **screen capture**. Add two blank spaces following the first screen capture and then paste this one.

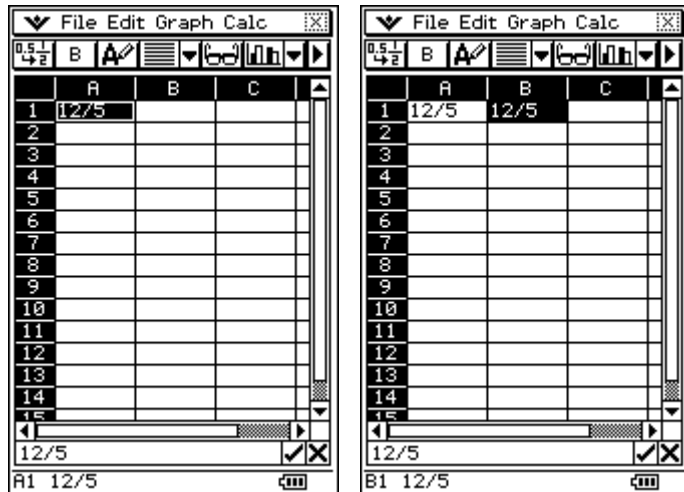
6. Type $5+10+15$ into cell **A2** and change the cell so that it shows the sum (the number 30).
7. With **A2** active, click on the  toolbar button to see the contents of cell **A2**.
8. Get a **screen capture** with the cell viewer window open. Add two blank spaces following the second screen capture and then paste this one.

PART II


In this part, we will practice selecting and dragging a single cell and multiple cells, and creating different types of graphs.

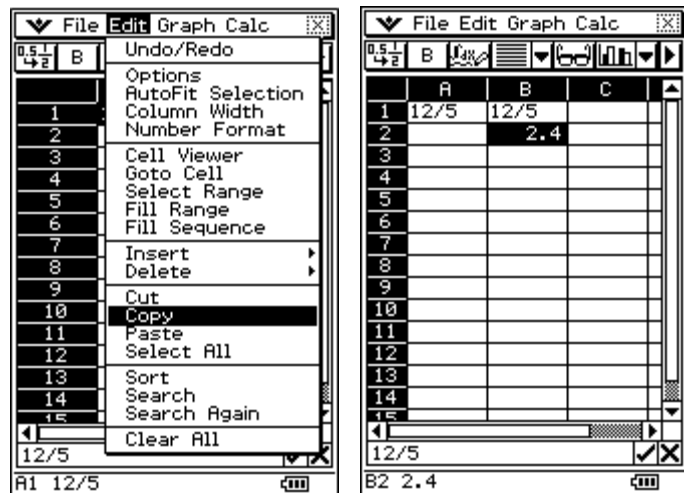
1. Copying Cells with Drag & Drop

- a. Open Spreadsheet and clear the window
- b. Input $12/5$ into cell **A1** and press **EXE**
- c. Click **A1** to **select it** and let go
- d. *Press and hold A1* (notice the outer border looks different)
- e. *Still holding*, drag to **B1** and then let go




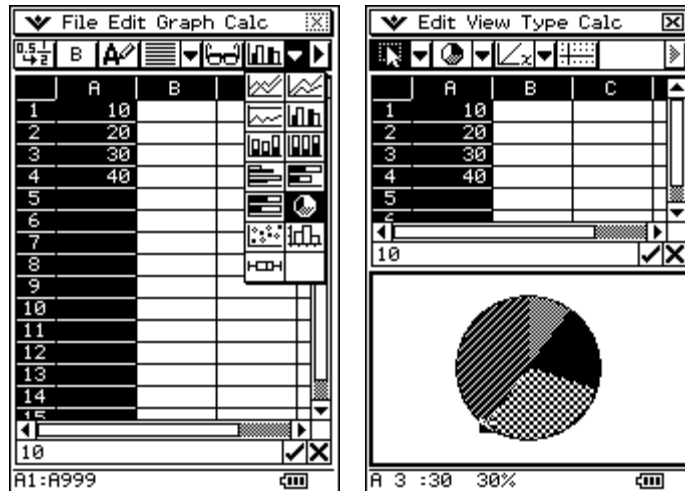
2. Copying and Pasting Cells with Edit Menu Commands

- a. Select **A1** and let go
- b. Select **Edit/Copy** to copy **A1**'s contents to the clipboard
- c. Select cell **B2** (click on it)
- d. Select **Edit/Paste** (**B2** should now contain $12/5$)
- e. Change **B2** to a math cell
- f. If needed, click  (**B2** should read 2.4)



3. Drawing a Pie Graph

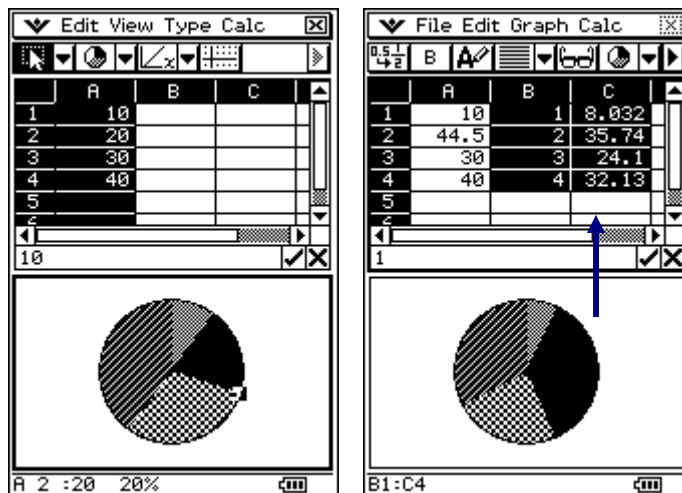
- Clear your window
- Input 10, 20, 30, and 40 into cells **A1** to **A4**.
- Click directly on the **column heading A** to select the entire column
- Select **Graph/Pie** or select  from the **button palette**
- In the graph window, click on different points where the shading changes



Notice the status bar!

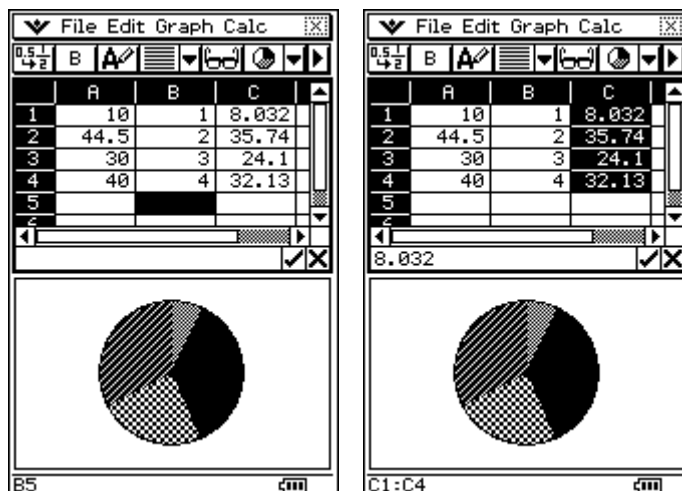
4. Changing a Graph and Drag & Drop

- Select **one point** on your pie chart and let go
- Drag** the point you selected (notice your spreadsheet updated; our data may differ)
- Press on your selected point and then drag to cell **B1** (scroll left to see column A again)
- Notice the percentages show in **column C**
- Notice the **block of cells** from **B1** to **C4** are selected



5. Selecting a Block of Cells

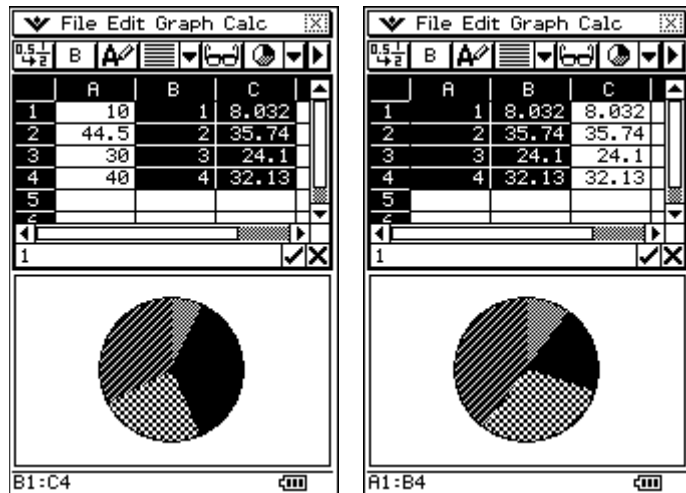
- Click in any **blank cell** to **deselect** all cells
 - Click and hold C1**
 - Without letting go, **drag down** to **C4**
- ***If you did let go by mistake, click somewhere to deselect **C1** and try again.
- ***Remember to use Edit/Undo-Redo if needed
- You just selected the block of cells **C1** to **C4**



6. Dragging a Selected Block of Cells

- Click in a **blank cell** to **deselect** the block of cells
- Click and hold B1**
- Without letting go, **drag down to C4** and let go
- Now, click and hold **B1** (notice its edge is white)
- Without letting go, drag to **A1**

You can also drag a cell or block of cells to a spreadsheet, such as Excel, or a word processor document, such as Word.




PART II Practice Exercises

- Please start with a clean Spreadsheet window. Are you ready?
- Input 21/10 into cell **B2**.
- Select **B2**, let go and then drag it to cell **C3** (i.e. copy **B2** to **C3**).
- Get a **screen capture** and paste it into your Lesson 8 document (under a title of PART II).
- Change **C3** to a math cell and then change it to show a decimal if it is not already.
- Get a **screen capture**. Add two blank spaces following the first screen capture and then paste this one.
- Clear your Spreadsheet window.
- Input **12, 17, 10, 20** and **15** into cells **A1** to **A5**.
- Select column **A**.
- Open the **Graph** menu and then select **Column/Clustered**.
- In your spreadsheet, **change 12 to 8** and press **EXE**.
- Select a single column bar in your graph and let go.
- Press on the selection and drag to cell **B1** (you should see data in cells **B1** to **C5**).
- Get a **screen capture**. Add two blank spaces following the second screen capture and then paste this one.
- On your own, practice dragging a block of cells.

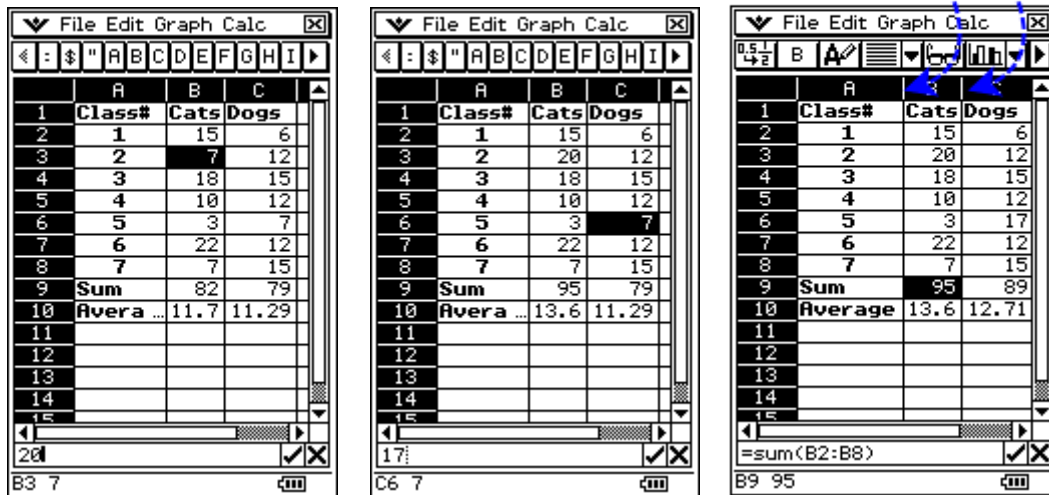
PART III

In this part, you will learn an important feature of spreadsheets; a feature that makes spreadsheets very powerful calculation tools. This great feature involves *cell referencing* and *formulas*.

1. Experimenting with Formulas

- To begin, open the eActivity application
- Open the eActivity named **L8_PartIII_a** (in the Lesson 8 folder)
- Expand the Spreadsheet strip and press  Resize
- Experiment! Change **B3** to 20. What happens?
- Change **C6** to 17. What happens?
- Click on cell **B9**; its formula shows in the edit box

Press and drag to
resize columns:



The first screenshot shows the spreadsheet with cell B3 containing the value 7. The second screenshot shows the spreadsheet after B3 has been changed to 20, and the 'Sum' row (row 9) has updated its values to 95 and 79. The third screenshot shows the spreadsheet after column C has been resized, and the 'Sum' row (row 9) has updated its values to 95 and 89. A callout box points to the column headers with the text 'Press and drag to resize columns:'.

| | A | B | C |
|----|-----------|------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 7 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 7 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 82 | 79 |
| 10 | Avera ... | 11.7 | 11.29 |

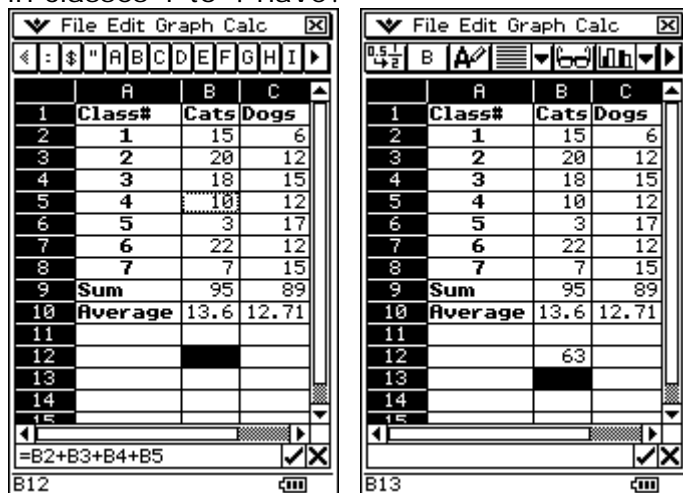
| | A | B | C |
|----|-----------|------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 20 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 7 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 95 | 79 |
| 10 | Avera ... | 13.6 | 11.29 |

| | A | B | C |
|----|---------|------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 20 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 17 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 95 | 89 |
| 10 | Average | 13.6 | 12.71 |

2. Entering Formulas (formulas MUST begin with an equal sign (=))

How many cats do students in classes 1 to 4 have?

- Click on cell **B12** and input an = sign
- Notice the **cursor** looks different (**it is dashed**)
- Click on cell **B2**, then input a + sign
- Click on cell **B3**, then input a + sign
- Click on cell **B4**, then input a + sign
- Click on cell **B5**, then press **EXE**



The first screenshot shows the spreadsheet with cell B12 selected and a dashed cursor. The second screenshot shows the spreadsheet after the formula =B2+B3+B4+B5 has been entered into cell B12, and the result 63 is displayed.

| | A | B | C |
|----|---------|------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 20 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 17 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 95 | 89 |
| 10 | Average | 13.6 | 12.71 |
| 11 | | | |
| 12 | | | |
| 13 | | | |
| 14 | | | |

| | A | B | C |
|----|---------|------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 20 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 17 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 95 | 89 |
| 10 | Average | 13.6 | 12.71 |
| 11 | | | |
| 12 | | 63 | |
| 13 | | | |
| 14 | | | |

Try this: Click on **B12**, delete the = sign and press **EXE** (Spreadsheet now thinks B12 contains a text entry). Ok, now please put the = sign back!

3. Another Way to Enter Formulas

How many cats do students in classes 1 to 4 have? We will look at another way to do this. If we had 400 classes instead of 4 to sum, we would not want to type in all the cells.

- Entering **=sum(B2:B5)** is a shorthand way to enter **=B2+B3+B4+B5**
- In general, ":" is used "**Beginning cell: Ending cell**"

- Click on cell **B13**
- Open **Calc** menu and select **List-Calculation /sum** ("=sum(" will appear in the edit box)
- Click on **B2** and drag to **B5** (or you can type in **B2:B5**)
- Press **EXE**
- Change **B13** to **=sum(B2:B8)**
- Does the result match cell **B9**?

| | A | B | C |
|----|---------|-------------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 20 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 17 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 95 | 89 |
| 10 | Average | 13.6 | 12.71 |
| 11 | | | |
| 12 | | 63 | |
| 13 | | =sum(B2:B5) | |
| 14 | | | |

| | A | B | C |
|----|---------|-------------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 20 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 17 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 95 | 89 |
| 10 | Average | 13.6 | 12.71 |
| 11 | | | |
| 12 | | 63 | |
| 13 | | =sum(B2:B8) | |
| 14 | | | |

4. Summing a Block of Cells

How many animals (cat and dogs) are there in all the classes?

- Click on cell **A11**
- Type in the word **Total** and make it bold
- Click on cell **B11**
- Type in **=sum(**
- Click on cell **B2** and drag to cell **C8**
- Press **EXE**
- Does your sum equal **B9** plus **C9**? Yes!

| | A | B | C |
|----|---------|------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 20 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 17 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 95 | 89 |
| 10 | Average | 13.6 | 12.71 |
| 11 | Total | | |
| 12 | | 63 | |
| 13 | | 95 | |
| 14 | | | |


| | A | B | C |
|----|---------|------|-------|
| 1 | Class# | Cats | Dogs |
| 2 | 1 | 15 | 6 |
| 3 | 2 | 20 | 12 |
| 4 | 3 | 18 | 15 |
| 5 | 4 | 10 | 12 |
| 6 | 5 | 3 | 17 |
| 7 | 6 | 22 | 12 |
| 8 | 7 | 7 | 15 |
| 9 | Sum | 95 | 89 |
| 10 | Average | 13.6 | 12.71 |
| 11 | Total | 184 | |
| 12 | | 63 | |
| 13 | | 95 | |
| 14 | | | |

Formulas are very useful in spreadsheets. When we combine them with cell references, they become very powerful. In Lesson 13 we will learn more about *cell referencing*. **For now, try the following and think about what is happening:**

- Click on cell **B11** and let go
- Press on **B11** and drag it to **B12**
- What happened? Click on **B11** and look at its formula. Click on **B12** and look at its formula. Interesting, isn't it? Keep exploring.

PART III

Practice Exercises

1. Open the eActivity application and **reopen L8_PartIII_a**. If you need to get back to eActivity, you can click Resize and then click inside eActivity. Or, you can click the upper  to close Spreadsheet window.
2. Once you reopened L8_PartIII_a, expand the Spreadsheet strip and click Resize.
3. In Statistics, we use the word “mode” to mean “most often”. The mode of a list of numbers is the number/s that occur the most in the list.
4. Click in cell **A11** and type in **Mode** and make it bold.
5. Click in cell **B11** and input **=mode(B2:B8)** [Hint: You can use the Calc menu’s mode command or type it in and select the cell block.]
6. Get a **screen capture** and paste it into your Lesson 8 document (under a title of PART III).
7. In cell **C11**, find the mode for the number of dogs in classes 1 to 7. [Hint: You can drag cell **B11** to cell **C11**.]
8. Get a **screen capture**. Add two blank spaces following the first screen capture and then paste this one.
9. **Save** your work as an eActivity named **L8_PartIII_a**_your initials here.
10. Ok, now let’s have some fun (if you are not already). To begin, open the eActivity named **L8_PartIII_b**.
11. Please read the instructions inside the eActivity. After expanding the spreadsheet strip, click Resize. **Your goal** is to rearrange the numbers in the block **B4** to **D6**, using each number from **1** to **9** **only once** so that the outer sums all equal the same value.
12. Once you have all the outer sums equal (all the non-bold numbers), get a **screen capture**. Add two blank spaces following the second screen capture and then paste this one.
13. **Save** your work as an eActivity named **L8_PartIII_b**_your initials here.

PART IV

Reflection Exercises

You have just completed the eighth lesson in ClassPad 101. Remember that you can use what you just learned in Excel. Please take a few moments to copy and paste the following three questions at the end of your Lesson 8 document and answer them.

1. Approximately how long did it take you to complete this lesson?
2. Which activity did you enjoy the most?
3. Did you find any part of this activity difficult to follow? If so, which part? Also, how did you overcome the difficulty?

Assessment 8: Introduction to Spreadsheet

- **Checkpoint:** Your word processed document, titled "Lesson8", should contain the following activities:
 1. Three screen captures from PART I.
 2. Three screen captures from PART II.
 3. Three screen captures from PART III.
 4. Three reflection questions with answers from PART IV.
- **Submit** your **Lesson 8 document** to your instructor for grading.