# MS Excel Exercise 1: Formulas & Functions

Create a Spreadsheet that calculates statistics regarding the number of students enrolled at Armstrong Twp. High School during a 5 year time period.

1. Begin by opening up a new worksheet in Microsoft Excel.

2. Copy the following spreadsheet **exactly as show** below. Make sure that you **copy the exact statistics shown on the table.** Use the same rows and columns as shown.

3. The **Highlighted Cells** are where you will need to enter your formulas.

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | ATHS POPULATION REPORTS | | | | | | | |
| 2 | Grade | | 2010-2011 | 2011-2012 | 2012-2013 | 2013-14 | 2014-15 | |
| 3 | 9th | Male | 55 | 54 | 43 | 32 | 26 | |
| 4 | | Female | 34 | 43 | 30 | 50 | 39 | Average # of 9th |
| 5 | | Total 9th | | | | | | |
| 6 | | | | | | | | |
| 7 | 10th | Male | 47 | 51 | 55 | 41 | 37 | |
| 8 | | Female | 56 | 38 | 43 | 29 | 42 | Average # of 10th |
| 9 | | Total 10th | | | | | | |
| 10 | | | | | | | | |
| 11 | 11th | Male | 51 | 47 | 53 | 53 | 42 | |
| 12 | | Female | 29 | 55 | 37 | 43 | 22 | Average # of 9th |
| 13 | | Total 9th | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | 12th | Male | 35 | 53 | 44 | 43 | 50 | |
| 17 | | Female | 39 | 26 | 51 | 37 | 44 | Average # of 10th |
| 18 | | Total 10th | | | | | | |

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 20 | | 2010-2011 | 2011-2012 | 2012-20113 | 2013-2014 | 2014-2015 | |
| 21 | Total # of Students | | | | | | |
| 22 | % of 9th Graders | | | | | | |
| 23 | % of 10th Graders | | | | | | |
| 24 | % of 11th Graders | | | | | | |
| 25 | % of 12th Graders | | | | | | |

4. For each school year, enter a formula that will **ADD** the total number of males and females for each grade level.

5. Enter a formula that calculates the **Average** Total Number of students by grade level for each of the 5 years.

6. Enter formulas that calculate the Total Number of Students enrolled at ATHS for each of the 5 years.

7. Use the following equation to create formulas that calculate the percentage of students in each grade level, for each of the 5 years.

**Total # of Students in a Grade Level / Total # of Students = % of Students in Grade Level**

8. Format the Percentages with **NO DECIMALS**!

9. Create **OUTSIDE BORDERS** around all of your cells where you have entered formulas

10. Save your work in your Excel folder Chapter 11 as **Review_Ex.1_yourname**

# MS Excel Exercise 2: Space Weight

1. You will be constructing a spreadsheet that will calculate your current weight if you were standing (and still alive!) on each of the planets (including Pluto).

2. Open a **New Worksheet** in Microsoft Excel.

3. Type the spreadsheet shown to the right.

4. In the column titled, **New Weight (lbs)** insert a formula that multiplies the gravity factor by the weight entered in the cell entitled, **My Weight (lbs). MAKE SURE TO USE ABSOLUTE REFERENCING!!!**

5. After you have entered your formulas and calculated your weights for each planet. Highlight the entire table of planets, gravity factors and new weight, and **Sort** the **Data** by **Gravity Factor** in **Ascending order.**

| Weight in Space Calculator | | |
|---|---|---|
| | | |
| My Weight (lbs) = | | |
| | | |
| Planet | Gravity Factor | New Weight! (lbs) |
| Mecury | 0.38 | |
| Venus | 0.91 | |
| Earth | 1.00 | |
| Mars | 0.38 | |
| Jupiter | 2.60 | |
| Saturn | 1.10 | |
| Uranus | 0.90 | |
| Neptune | 1.20 | |
| Pluto | 0.08 | |

7. Test your weight calculator by typing in different weights in the cell next to the My Weight (lbs) = . You should notice that the New Weight column adjusts automatically. If not, check through your formulas...

**8. Type your full name in row 1.**

9. **Save** the workbook in your excel folder Chapter 11 as **Review_Ex.2_yourname**.

# MS Excel Exercise 3: GPA Calculator

1. You will be constructing a spreadsheet that you can use to calculate your current **Grade Point Average. (GPA)**

2. Open a **New Worksheet** in Microsoft Excel.

3. Copy the spreadsheet shown to the next page.

Under the heading **Subject**, list the classes that you currently are enrolled in.

4. In the column titled, **Current Grade**, check the grades for your current grades in each subject and enter them in the appropriate cell.

| GPA calculator | | |
|---|---|---|
| | | |
| **Subject** | **Current Grade** | **Grade Values** |
| Math | | |
| Science | | |
| English | | |
| PE | | |
| Health | | |
| Computers | | |
| Social Studies | | |
| | | |
| | **Total Values =** | **0** |
| | | |
| | **MY GPA =** | **0.00** |
| | | **Keep Trying!** |
| **NOTE: Grade Values** | | |
| **A = 4.0** | | |
| **B = 3.0** | | |
| **C = 2.0** | | |
| **D = 1.0** | | |
| **F = 0.0** | | |

5. Use an **IF Function** to create the **Grade Values.** Use the **NOTE: Grade Values** to help you.

Condition: IF Current Grade = "A", then 4.0, else IF Current Grade = "B", then 3.0, else IF Current Grade = "C", then 2.0, else IF Current Grade = "D", then 1.0, else IF Current Grade = "F", then 0.0, else 0.0

6. In the **Total Values =** cell, insert a formula that calculates the Total of all individual letter grade values found in the **Grade Values** Column. (Add up all the individual letter grade values).

7. In the **MY GPA=** cell, insert a formula that calculates the **AVERAGE** of all the individual **Grade Values.** You can do this either by using the Function Button and selecting AVERAGE for the range of cells or by entering a formula for calculating averages. (Total of all values / total # of individual values).

8. Use the Decrease Decimal button to round of the decimals to the nearest 100th. (Two decimal places)

9. Under the cell that calculates **MY GPA,** Insert an **IF Statement** for the following condition:

If a student's GPA is greater than or equal to a 3.50, then have the cell display **HONOR ROLL!** If the student's GPA is less than the 3.50, have the cell display, **Keep Trying!**

**10. Try out your GPA Calculator. Type in a series of low grades (1's & 2's) and then high grades (3's & 4's) and see if the IF statement changes to Keep Trying or Honor Roll!**

11. **TYPE YOUR FULL NAME IN ROW 1**

12. **Save** the workbook in your excel folder Chapter 11 as **Review_Ex.3_yourname**