CS130 Midterm Review

Create a workbook called **PUNetID-MidtermReview**

Problem #1: Is it possible to rewrite the following IF function without using any ANDs or ORs? =IF(AND(A1>5,B1>10,C1,D1) If it is possible, then you have two IF statements that are logically equivalent. If it is possible, what test data do you need to run through both IF functions to make sure they do exactly the same thing (i.e. they are logically equivalent)?

Problem #2: The first few fibonacci numbers are: 1,1,2,3,5,8,... where the first two numbers are always 1,1 and each subsequent number is found by adding the previous two. In one column, I would like you to find the first 12 fibonacci numbers.

Problem #3: I would like you to find the first 12 solutions to the equation: y=x^2 over the interval 1<=x<=12 where x is an integer. You can use as many columns of data as you need.

Problem #4: An approximation for pi is:

4 * (1/1 − 1/3 + 1/5 − 1/7 + 1/9 - …)

Design a worksheet that displays the approximation for pi using the first 20 terms of the sequence.

What is the approximation for pi using the first 60 terms of the sequence.

Problem #4: The harmonic mean of a set of numbers is the number of scores N, divided by the reciprocals of each number. As an example, the harmonic mean of 7,8,7,3,6,2 is:
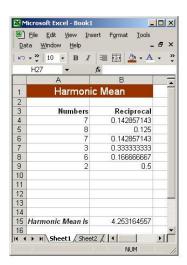
6 / (1/7 + 1/8 + 1/7 + 1/3 + 1/6 + 1/2) = 4.3

Design an Excel worksheet that allows the user the ability to enter up to 10 numbers and prints the harmonic mean of the numbers entered. Note: The user can enter from 1 to 10 different numbers inclusively.

Here is an example:

Numbers	Reciprocal
7	0.142857143
8	0.125
7	0.142857143
3	0.333333333
6	0.166666667
2	0.5

Harmonic Mean = 4.253165

Make your worksheet look like the following:

If a value is typed into A10, the reciprocal is calculated in B10 without any dragging down being necessary. Again, set the worksheet up to handle up to 10 numbers.