Name: _____ Algebra
Date: _____ Unit 5
Class: _____ EC

To be eligible to receive extra credit on the unit test you must have a score below 75. To receive extra credit you must score an 80% or higher on this assignment (anything lower results in no extra credit). If you earn extra credit is calculated in the following manner: Old Test Score + (75 – Old Test Score)(2/3) = New Test Score. This assignment will not be accepted late for any reason other than missing the day of school it is due in which case it must be turned in the next day you are in school even if you do not have class.

1) [3] Solve the following system: $8x - 7y = -7$ and $14y - 8x = 11$

2) [3] Solve the following system: $10x - 6y = 8$ and $5x = 4 + 3y$

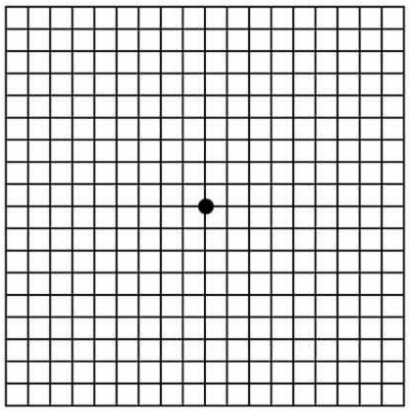
3) [3] Solve the following system: $15x = 21 - 9y$ and $3y = 9 - 5x$

4) [4] Steve has 2 jobs, he works as a financial analyst and he waits tables on the weekend. During the 1st week of June he works 25 hours as an analyst and 18 waiting tables and makes $966.55 and during the 2nd week of June he works 30 hours as an analyst and 19 hours waiting tables and makes $1118.65. How much will he make During the 3rd week if he works 10 hours waiting tables and 32 as an analyst?

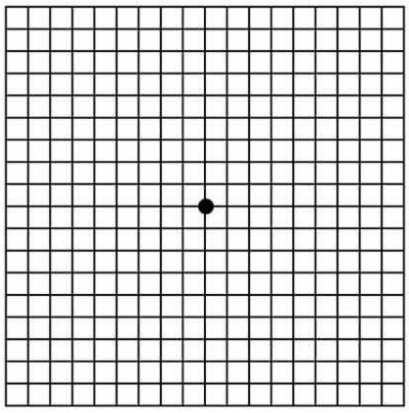
5) [3] Sally is running at a rate of 2 feet per second and Jim is running at a rate of 4 feet per second. Sally has a 3 second head start, how long will it take Jim to catch up to her?

5) [3] Graph the following system of inequalities (and label the solution area):

$$8x - 3y < 15 \; and \; 6y + 4x \leq 12$$



6) [3] Find the solution to the equation: $-\frac{1}{5}x + 4 = |x - 3| + 1$



7) [4] A family is taking a vacation. When they drive in the left lane they travel at 75mph, when they drive in the right lane they travel at 50mph. They can drive a maximum of 10 hours a day and they need to travel a minimum of 800 miles. Create a graph to show potential traveling times in each lane that would meet their requirements and state 2 different solutions to this problem.