Economics 101 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Summer 2015

Quiz #0

Please write your answers neatly and legibly.

1. (1 point) Suppose you are given two equations:

Y = 100 – 2X

Y = 50 + (1/2)X

Given these two equations find the point of intersection (X, Y) for these two equations. Show all your work for full credit.

1. (1 point) You are told that the point (X, Y) = (10, 20) sits on a straight line. You are also told that this line intersects the X-axis at 30. Given this information, find the equation in Y-intercept form for this line. Show your work for full credit.
2. (1 point) Suppose you know that the point (X, Y) = (5, 8) sits on a straight line and you are also told that each time the X variable increases by 2 units, the Y variable increases by 5 units. From this information, write an equation in Y-intercept form. Show your work for full credit.
3. (2 points) Suppose that you know the points (X, Y) = (10, 10) and (20, 5) sit on a straight line. For each of the following coordinate points determine whether the point sits on this straight line, sits below the straight line, or sits above the straight line.
   1. (X, Y) = (4, 13) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. (X, Y) = (22, 5) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. (X, Y) = (8, 9) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. (X, Y) = (25, 2.25) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Workspace:

1. (1 point) Suppose you are given the following equation:

X = 100 – 2Y

You are told that something happens so that at every Y value the X variable has now decreased by 25 units. Given this change, write an equation in Y-intercept form for this new line. Show your work for full credit.

1. (2 points) Susie is currently taking Math 112 and her grade is based upon three midterms and a final. Each of the midterms contributes 20% of her final grade based upon each midterm being graded on a 100 point scale. Her final exam contributes the remaining 40% of her grade based upon the final being graded on a 100 point scale. Her professor though enjoys giving exams that are not based on 100 point scales. So Susie would like your help in figuring out what score she needs on the final to get an AB in the class. She knows that she needs to have a total score of 80 based on the above weights in order to get an AB and she also knows her midterm scores and how many points were available on each exam. Here are the data she has:

|  |  |  |
| --- | --- | --- |
| Assignment | Susie's Score | Total Number of Points on Exam |
| First Midterm | 35 | 50 points |
| Second Midterm | 120 | 150 points |
| Third Midterm | 30 | 40 points |
| Final | not yet taken | 80 points |

First, convert these scores to a 100 point scale and fill in your answers in the table below:

|  |  |
| --- | --- |
| Assignment | Susie's Score on a 100 point scale |
| First Midterm |  |
| Second Midterm |  |
| Third Midterm |  |
| Final | --- |

Now, compute the score Susie needs to make on her final exam on a 100 point scale in order to earn an AB. Then, convert this score to what she needs to make on this final exam given that it is an 80 point exam. Show all your work to get full credit here!

1. (2 points) Maria deposits $5,000 in a savings account at her local credit union on the first day of the year. Monies deposited in this account earn 3% a year and this interest is put into the account on the final day of the year. Maria plans to keep this amount in her savings account for a full two years so this means that she will earn interest after the first year and this interest will simply be added to her account so that she will earn interest during the second year on her initial deposit plus the interest she earned the first year (this is known as “compounding”).

Given this information, show how you would calculate the value of Maria’s deposit at the end of the first year once she has earned the first year interest payment.

Given this information, show how you would calculate the value of Maria’s deposit at the end of the second year once she has earned the second year interest payment.