**Mth 95 Lab 3** *Franz Helfenstein* **NAME**

Perform your work on separate paper as needed. Work must be clearly **legible**. Answers should be, **simplified** and **boxed** or **circled** and written on **THIS** page. Unless otherwise stated write answers as an exact integer, fraction where possible. Check your answers where possible.

|  |  |
| --- | --- |
| 1) Solve for x: | 2) Solve for y:  **−**  = 40 − 4 **·** |

|  |  |
| --- | --- |
| 3) Solve for y:  = y + 1 | 4) Solve for R  5R + 12 = KR + Rr + 2r2 |

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| --- | --- |
| 5) Find the equation of the line (SI form) through (15, -7) and (-3, 5). | 6) Find the equation of the line through (9, -5) and parallel to 6x − 9y = 108. Simplify to Standard form. |

7-10 Depend upon the following information.

A random group of drivers are polled and asked how the rising gas prices have affected their weekly gasoline purchases. That information is recorded and given below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gas Price | $2.00 | $2.50 | $3.00 | $3.50 | $4.00 |
| Avg Use | 17.3 | 16.5 | 15.2 | 13.6 | 12.6 |

|  |  |  |
| --- | --- | --- |
| 7a) Determine the independent vs. dependent variable.  7b) Enter the data into your calculator (usually L1 & L2)  7c) Set up and plot the data in a friendly window. Write your Friendly Window here:  [ , ] × [ , ] | x = | y = |
|  |  |

8) The data should appear linear. Run Linear Regression on your data and give the model here:

9a) Now that we have the model, we can use it to answer a variety of questions. At what price does the model predict that folks will quit buying gas?

9b) According to the model, what purchase level is predicted at a price or $5.00?

10a) According to the model, at what price will the purchase level drop to 10 gal/wk?

10b) According to the model, how much gas would be used per week if gas were free.

Is this model realistic for all y ≥ 0 cases? Why/why not?