

# Statistics I Lab 1

**Submission Instructions:** Welcome to Lab 1. Upon completion, you *should upload* your **Word Document** and **Minitab Project files** to Blackboard by 11:59 PM of the due date.

## Problems

Chapter 6 Lab - Normal Distribution.

Answer the following questions using Minitab. Copy your results to a Word document with the questions stated clearly using statistical symbols where necessary.

1. **Question 1** (30 points)

A normal distribution has a mean of 40 and a standard deviation of 3; find the Z values equivalent to the X values given below:

- 48
- 25
- 38
- 50.5
- 33.7

2. **Question 2** (30 points)

Find the areas under the standard Normal distribution for the following:

- to the right of  $Z = 1$
- to the left of  $Z = 2$
- to the right of  $Z = -90$
- between  $Z = 1.05$  and  $Z = 2.55$
- between  $Z = -2.44$  and  $Z = 1.73$

3. **Question 3** (40 points)

Invoices at a particular depot have amounts which follow a normal distribution with a mean of \$110.70 and a standard deviation of \$7.85.

- What percentage of invoices will be over \$130.25?
- What percentage of invoices will be below \$91.50?
- What percentage of invoices will be between \$87.25 and \$118.30?
- between  $Z = 1.05$  and  $Z = 2.55$
- between  $Z = -2.44$  and  $Z = 1.73$

Have fun!