

ENGR 0020
Spring 2019
Quiz 10
April 4, 2019

Name (Print): _____
Recitation Section: — (A 9:00-10:50, B 13:00-14:50)

Time Limit: 10 Minutes

Teaching Assistant: Shaoning Han

This quiz contains 1 page and 1 problem. You can use textbooks, notes and calculators, but *no* discussions. Use the backside of the paper if needed.

1. (10 points) The following data were collected to determine the relationship between pressure and the corresponding scale reading for the purpose of calibration.

Pressure, x (lb/sq in.)	Scale Reading, y
10	13
10	18
10	16
10	15
10	20
50	86
50	90
50	88
50	88
50	92

- (a) Find the equation of the linear regression line.
- (b) The purpose of calibration in this application is to estimate pressure from an observed scale reading. Estimate the pressure for a scale reading of 54 using $\hat{x} = (54 - b_0)/b_1$.

Solution:

(a) $\hat{y} = -1.70 + 1.81x$.

(b) $\hat{x} = (54 + 1.70)/1.81 = 30.77$.