

# HW #1

## TECH 3821

Ver1.21

Name: \_\_\_\_\_

Due at the start of next class. Submit paper at start of class, submit excel spreadsheet for Ques #6 via online submission system from class website.

1. An 8 bit A/D has 0v connected to  $V_{rl}$  and 5v connected to  $V_{rh}$ . If the value returned by the A/D converter is  $5C4$  calculate the following (show all calculations for full credit):

i. What is the Voltage/bit\_change?

ii. What is the Full Scale Range?

iii. What is the input voltage?

iv. A pressure transmitter is connected to the A/D. If the FSR of the sensor is 0 to 30PSI what is the pressure?



5. If the signal from the question above is coming from a flowmeter that has a range of 0-1000 Gallons Per Minute gives a range of -2v to 5v. What is the flow?

6. Create an excel spreadsheet similar to the one shown below. XY plots are REQUIRED. Yellow cells indicate user input, all other cells should be calculated.

