**Process Variables Worksheet**

Fill in the Blanks with the term that represents the situation/parameter/element given.

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|  | A Resistance Temperature Detector (RTD) can read temperature to the nearest 0.5° F. |  |
|  | An operator selects the level in a tank to be 36 inches. |  |
|  | The actual values allowed in PLC programming before a tank heater is switched ON/OFF are 135.5 to 136.8 ° F |  |
|  | The difference between the two values above. |  |
|  | A capacitive sensor measures the tank level at 35.5 inches. The actual level is at 36 inches. |  |
|  | A system is designed to maintain 70 PSI air pressure in a tank. Pressure is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_. |  |
|  | The measured pressure in the tank above ranges from 68 PSI to 72 PSI without changing any of the process conditions. |  |
|  | A sensor measures the pressure in a tank at 67 psi. The technician measures again a few seconds later, under the same conditions, and the reading is now 69 psi. |  |
|  | An RTD coupled with a transmitter, generates a milliamp signal, proportional to the temperature, to a PLC. The RTD is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the control loop. |  |
|  | In a system where pressure must be maintained (process variable), a compressor must be switched ON/OFF. The compressor is the \_\_\_\_\_\_\_\_\_\_\_ in the control loop. |  |
|  | A PLC reads a temperature from a sensor and sends a signal to a heating element to switch ON or OFF. The PLC is the \_\_\_\_\_\_\_\_\_ in the control loop. |  |
|  | A heater above is the \_\_\_\_\_\_\_\_\_ in the process control loop. |  |

Fill in the Blanks with the term that represents the situation/parameter/element given.

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|  | A Resistance Temperature Detector (RTD) can read temperature to the nearest 0.5° F. | Sensitivity |
|  | An operator selects the level in a tank to be 36 inches. | Setpoint |
|  | The actual values allowed in PLC programming before a tank heater is switched ON/OFF are 135.5 to 136.8 ° F | Range |
|  | The difference between the two values above. | Span |
|  | A capacitive sensor measures the tank level at 35.5 inches. The actual level is at 36 inches. | Accuracy |
|  | A system is designed to maintain 70 PSI air pressure in a tank. Pressure is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_. | Process Variable |
|  | The measured pressure in the tank above ranges from 68 PSI to 72 PSI without changing any of the process conditions. | Drift |
|  | A sensor measures the pressure in a tank at 67 psi. The technician measures again a few seconds later, under the same conditions, and the reading is now 69 psi. | Repeatability |
|  | An RTD coupled with a transmitter, generates a milliamp signal, proportional to the temperature, to a PLC. The RTD is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the control loop. | Primary Element |
|  | In a system where pressure must be maintained (process variable), a compressor must be switched ON/OFF. The compressor is the \_\_\_\_\_\_\_\_\_\_\_ in the control loop. | Manipulated Variable |
|  | A PLC reads a temperature from a sensor and sends a signal to a heating element to switch ON or OFF. The PLC is the \_\_\_\_\_\_\_\_\_ in the control loop. | Control Element |
|  | A heater above is the \_\_\_\_\_\_\_\_\_ in the process control loop. | Final Element |