Exercise

# Standards and Calibration

Consider each of these statements and identify the type of measurement error that is being addressed by the statement. If more than one error could apply, pick the most likely error associated with that type of action.

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| Accuracy | Precision | Stability | Linearity | Discrimination | Statement |
|  |  |  |  |  | 1. | A new measurement system is selected that has a measurement scale with finer resolution. |
|  |  |  |  |  | 2. | A Gage R&R Study is conducted to identify the level of common cause error in a measurement system.  |
|  |  |  |  |  | 3. | A measurement system is calibrated to remove a bias. |
|  |  |  |  |  | 4. | A measurement system is selected because the measured item’s normal range was well within the measurement system range.  |
|  |  |  |  |  | 5. | An analysis was performed to determine the level of repeatability of a measurement system. |
|  |  |  |  |  | 6. | A measurement system is calibrated every six months in accordance with the calibration plan for the measurement system.  |
|  |  |  |  |  | 7. | A golden standard is used with a measurement system at the beginning of each shift to ensure the system is operating correctly. |
|  |  |  |  |  | 8. | A manual measurement system is rejected and an electronic system selected because the electronic system has better measurement resolution. |
|  |  |  |  |  | 9. | A measurement system is used ten times to measure a measurement standard. Based upon the average of the measurements, the measurement system is adjusted so that the average matches the standard.  |
|  |  |  |  |  | 10. | A measurement system that involves moving mechanical parts is lubricated weekly to reduce wear and tear.  |
|  |  |  |  |  | 11. | Two measurement systems are used, one for small items and one for large items so that there is no distortion in the measurements. |
|  |  |  |  |  | 12. | A measurement system that requires unique settings based upon the item being measured requires the operator to record those settings. |