



CALIBRATION



REVIEW – CLASS-8



Standards of Measurement



CONTENT-CLASS-9



**Review
Answers for
worksheet-8**

Calibration

**Activity –
Classroom
Game**

Case study

Summary

Worksheet-9



CALIBRATION



- **The act or result of quantitative comparison between a known standard and the output of the measuring system measuring the same quantity.**
- **If output-input relation is**
 - **Linear : Single point calibration**
 - **Nonlinear : Set of known standard values of the input are employed**



TYPES OF CALIBRATION



- 1. Primary Calibration**
- 2. Secondary Calibration**
- 3. Direct Calibration**
- 4. Indirect Calibration**
- 5. Routine Calibration**



PRIMARY CALIBRATION



- **Device or meter is calibrated against Primary standard.**
- **After primary calibration, the device is employed as a secondary calibration device.**



SECONDARY CALIBRATION



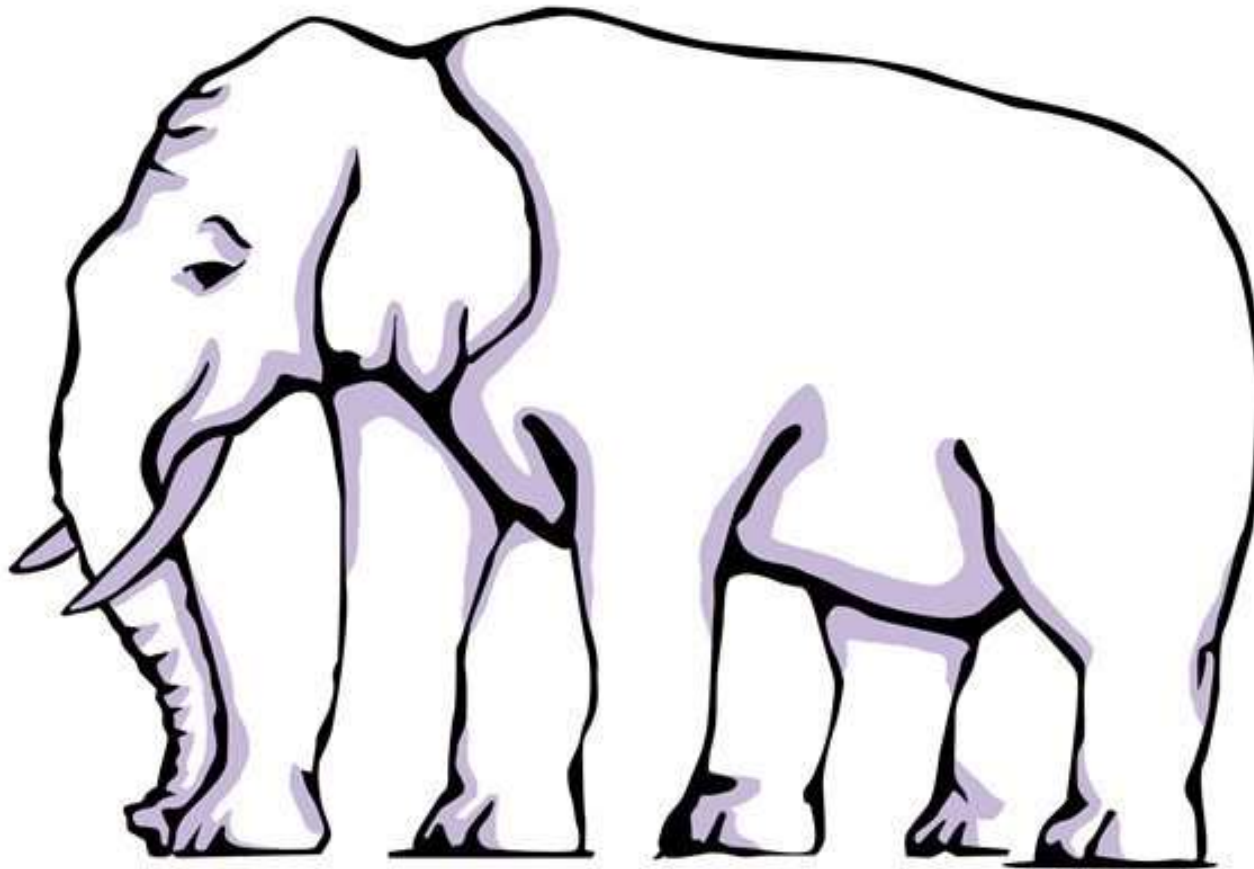
- Secondary calibration device is used for further calibrating another device of lesser accuracy.
- Secondary calibration devices are used in industry and general laboratory.



ACTIVITY



How many legs do I have?





VIDEO SHOW

Why Calibration?

<https://www.youtube.com/watch?v=GLHu-nbbDS8>



DIRECT CALIBRATION



- Direct calibration with known input source is in general of the same of accuracy as primary calibration.
- Devices that calibrated directly are also used as secondary calibration devices.



INDIRECT CALIBRATION



- **Based on the equivalence of two different devices that can be employed for measuring a certain physical quantity.**

EXAMPLE :

Calibration of Energy meter done in EP lab.



ROUTINE CALIBRATION



➤ Periodically checking the accuracy and proper functioning of an instrument.

Steps:

1. Visual inspection for physical defects
2. Checking for proper installation
3. Zero setting
4. Leveling of the instruments
5. Operational tests to detect major defects



CASE STUDY



**List the equipments that needs calibration.
Justify the method of calibration applicable to
the equipments**



ASSESSMENT



WORKSHEET



WORK SHEET



Match the following.

Primary Calibration

Secondary Calibration

Direct Calibration

Indirect Calibration

Routine Calibration

Periodical Checking

Calibrated with known input source

Equivalence of two different devices

Calibrated against primary standards

For further calibrating other devices



THANK YOU