# ACCURACY & PRECISION - POSITIONAL TOLERANCE

No measurement is perfect!

- Blunders are mistakes related to level of professionalism.

- Systematic error is related to accuracy.

- Random error is related to precision.

Accuracy is a measure of absolute nearness of some measurement to its true value. A data set containing little or no systematic error is said to be accurate. Due to random error, there may be significant variation among different measurements of the same quantity, but the mean of the data set will be quite close to the true value.

Precision is a measure of consistency (or repeatability) within a given data set. A data set containing small random errors is said to be precise. Due to systematic error (also known as a bias), there may be a difference between the mean of a data set and the true value of a quantity being measured.
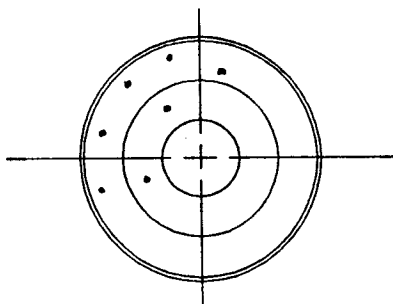
Target Practice Examples (Blunders are shots which miss the target):
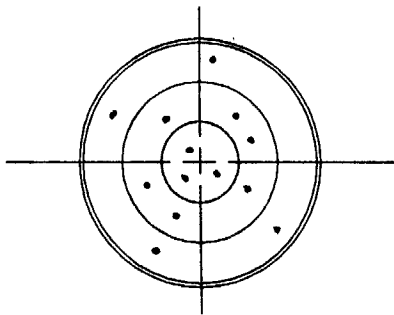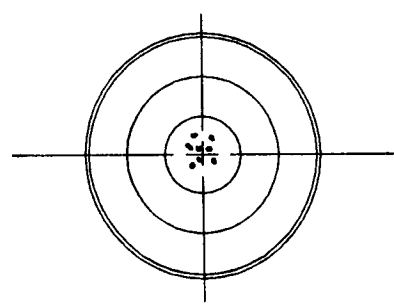

Accurate, but
Not Precise
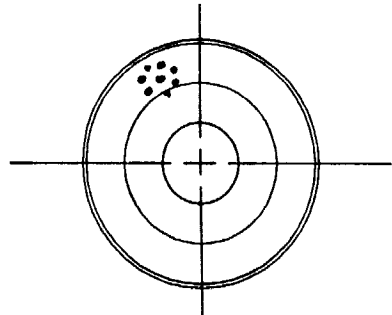
Precise, but
Not Accurate

Not Accurate and
Not Precise

Accurate and
Precise