

Setup the data in rows and columns as shown here. Then input that to Excel, as described in the help function for "ANOVA: Two Factor With Replication".

The resulting output is a huge set of tables. Somewhere towards the bottom of that set, you will find a small table that looks like this one.

Gage R&R using Excel's "Data Analysis" "Add-in" "Option", on the "DATA" tab: "ANOVA: Two Factor With Replication"

	Operator A	Operator B	Operator C
Part # 1	4.78	5.49	6.8
	6.61	0.29	0.28
	2.45	1.43	8.52
Part # 2	4.84	5.36	6.16
	5.02	6.37	0.68
	4.78	6.82	3.46
Part # 3	4.91	2.3	2.3
	2.25	2.25	2.25
	2.6	2.6	2.6
and so on, for a total of 10 parts			

Total			
Count	30	30	30
Sum	138.79	132.67	139.52
Average	4.63	4.42	4.65
Variance	5.25	6.61	8.07

Reproducibility (99%) =
5.15 x StdDev(4.63, 4.42, 4.65)

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Sample (= parts)	57.87	9	6.43	0.95	0.49	2.04
Columns (= operators)	0.94	2	0.47	0.07	0.93	3.15
Interaction	113.82	18	6.32	0.93	0.54	1.78
Within	406.12	60	6.77			
Total	578.76	89				

Repeatability (99%) = 5.15 x sqrt [(578.76 - 57.87 - 0.94) / (89 - 9 - 2)]

Gage R&R (99%) = sqrt (Reproducibility² + Repeatability²)

Near the bottom of that huge set of tables, you will find a small table that looks like this one (minus the red text, which was placed here by John Zorich).

Perform the 3 calculations shown on this slide (sqrt = square root). This Gage R&R result has been obtained using the most accurate method (per MSA-3), namely ANOVA.