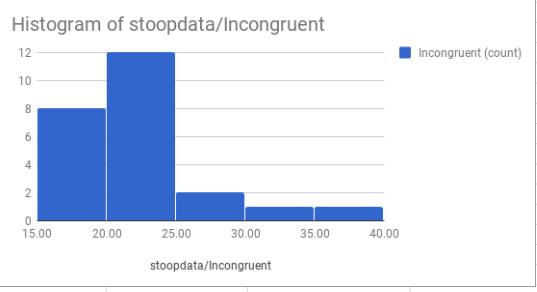
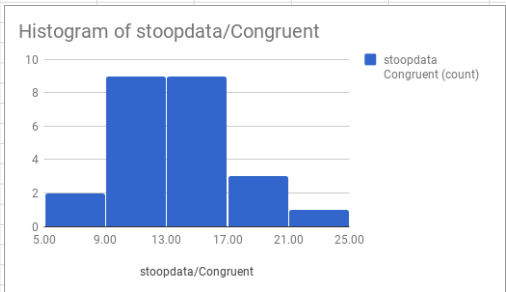
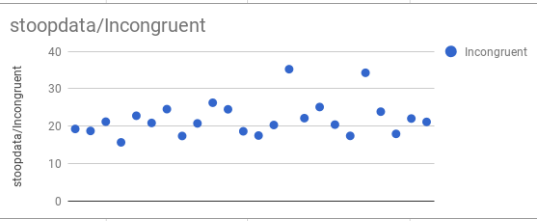
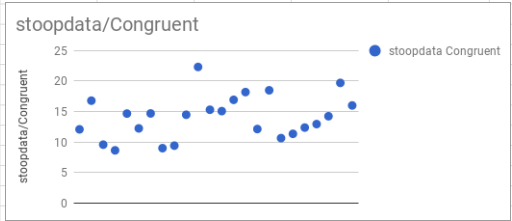


stoopdata		Deviation	Deviation	Squared Deviation	Squared Deviation
Congruent	Incongruent	Congruent	Incongruent	Congruent	Incongruent
12.079	19.278	-1.972125	-2.737916667	3.889277016	7.496187674
16.791	18.741	2.739875	-3.274916667	7.506915016	10.72507917
9.564	21.214	-4.487125	-0.8019166667	20.13429077	0.6430703403
8.63	15.687	-5.421125	-6.328916667	29.38859627	40.05518617
14.669	22.803	0.617875	0.7870833333	0.3817695156	0.6195001736
12.238	20.878	-1.813125	-1.137916667	3.287422266	1.29485434
14.692	24.572	0.640875	2.556083333	0.4107207656	6.533562007
8.987	17.394	-5.064125	-4.621916667	25.64536202	21.36211367
9.401	20.762	-4.650125	-1.253916667	21.62366252	1.572307007
14.48	26.282	0.428875	4.266083333	0.1839337656	18.19946701
22.328	24.524	8.276875	2.508083333	68.50665977	6.290482007
15.298	18.644	1.246875	-3.371916667	1.554697266	11.36982201
15.073	17.51	1.021875	-4.505916667	1.044228516	20.30328501
16.929	20.33	2.877875	-1.685916667	8.282164516	2.842315007
18.2	35.255	4.148875	13.23908333	17.21316377	175.2733275
12.13	22.158	-1.921125	0.1420833333	3.690721266	0.02018767361
18.495	25.139	4.443875	3.123083333	19.74802502	9.753649507
10.639	20.429	-3.412125	-1.586916667	11.64259702	2.518304507
11.344	17.425	-2.707125	-4.590916667	7.328525766	21.07651584
12.369	34.288	-1.682125	12.27208333	2.829544516	150.6040293
12.944	23.894	-1.107125	1.878083333	1.225725766	3.527197007
14.233	17.96	0.181875	-4.055916667	0.03307851562	16.45046001
19.71	22.058	5.658875	0.04208333333	32.02286627	0.001771006944
16.004	21.157	1.952875	-0.8589166667	3.813720766	0.7377378403

Descriptive statistics	Values(Congruent)	Values(Incongruent)
Central Tendency		
Mean	14.051125	22.01591667
Median	14.3565	21.0175
Variability		
Range (Min)	8.63	15.687
Range(Max)	22.328	35.255
Variance	12.14115286	22.05293383
Standard Deviation	3.484415713	4.696055135
Standard Deviation	12.66902907	23.01175704
With Bessels correction	3.559357958	4.797057122

Visualisation for the above data set



Performing Hypothesis Testing on the above sample data

stoopdata	
Congruent	Incongruent
12.079	19.278
16.791	18.741
9.564	21.214
8.63	15.687
14.669	22.803
12.238	20.878

Randomly Selected Samples Means		
Congruent [C]	In-Congruent [IC]	Comparison Result
12.3466	19.5446	As Expected C < IC
12.3784	19.8646	As Expected C < IC
11.9586	21.0308	As Expected C < IC
11.8432	20.2668	As Expected C < IC
11.9974	21.2818	As Expected C < IC
11.9596	21.9776	As Expected C < IC

Sample Size = 5 Randomly Picked mean values		
Congruent [C]	In-Congruent [IC]	Comparison Result
12.3466	19.5446	As Expected C < IC
11.9586	21.0308	As Expected C < IC
11.9596	21.9776	As Expected C < IC
14.0988	21.5212	As Expected C < IC
15.526	22.7794	As Expected C < IC
14.1616	24.0812	As Expected C < IC

14.692	24.572	13.9776	22.7068	As Expected C < IC	14.12	23.125	As Expected C < IC
8.987	17.394	14.0988	21.5212	As Expected C < IC	14.2824	27.1886	As Expected C < IC
9.401	20.762	15.316	21.5444	As Expected C < IC			
14.48	26.282	16.8216	21.458	As Expected C < IC			
22.328	24.524	17.5656	23.2526	As Expected C < IC			
15.298	18.644	15.526	22.7794	As Expected C < IC			
15.073	17.51	16.1654	24.0784	As Expected C < IC			
16.929	20.33	15.2786	24.6622	As Expected C < IC			
18.2	35.255	14.1616	24.0812	As Expected C < IC			
12.13	22.158	12.9954	23.8878	As Expected C < IC			
18.495	25.139	13.1582	24.235	As Expected C < IC			
10.639	20.429	12.3058	22.7992	As Expected C < IC			
11.344	17.425	14.12	23.125	As Expected C < IC			
12.369	34.288	15.052	23.8714	As Expected C < IC			
12.944	23.894	14.9508	21.7156	As Expected C < IC			
14.233	17.96	14.2824	27.1886	As Expected C < IC			
19.71	22.058	14.421	24.881	As Expected C < IC			
16.004	21.157	13.6078	23.425	As Expected C < IC			

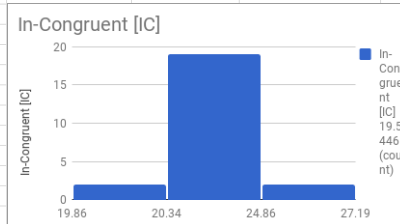
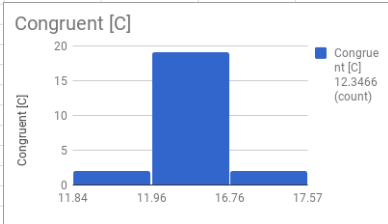
Standard Error = (Sample Mean - Population Mean)/(Standard Deviation/root(sample size))

Z values (Congruent [C])		Z-Values(In-Congruent [IC])		Here we are taking Alpha = 0.05%			
				Critical Z Values = +1.96 to -1.96			
Congruent [C]	In-Congruent [IC]	Congruent [C] (ratio)	Congruent [C] (Percentage)	In-Congruent [IC] (ratio)	In-Congruent [IC] (Percentage)		
-1.093840508	-1.178112331	0.1379	13.79%	0.119	11.90%		
-1.342834417	-0.4696145579	0.0918	9.18%	0.3228	32.28%		
-1.34219268	-0.01825828603	0.0901	9.01%	0.496	49.60%		
0.03061084908	-0.2358322219	0.512	51.20%	0.409	40.90%		
0.9464977213	0.3639739265	0.8264	82.64%	0.6406	64.06%		
0.07091192501	0.9845649644	0.5279	52.79%	0.8365	83.65%		
0.04421567089	0.5287275466	0.516	51.60%	0.6985	69.85%		
0.1484337399	2.465917393	0.5557	55.57%	0.9931	99.31%		

Here all the sample values pass the two tail non-directional test where except one highlighted in red

We can conclude this from the % values also as most of the values lies in medium region  
one values has a % of 99.31 which lies in the alpha region of 5%

Hence we accept the null Hypothesis as the trend continues for all the mean values sets compared



Here we can approximate that the curves we obtained from the means are some what Normal Curves

Here both the Congruent and In-Congruents Histogram plots form a Normal Distribution in accordance with the Central Limit Theorem

Plot for randomly picked samples

