Two Independent Samples

COMPARING CONFIDENCE INTERVALS OF SAMPLE MEANS   Excel 2010

Note: Groups 1 and 2 must be chosen so that Mean1 is less than Mean2.   2

Manual entry

		Samples	Mean	Std. Dev	Size	
confidence level	95	Group 1	100	7	20	4
Level of Significance	0.05	Group 2	108	8	16	5
		Pooled		7.46	=SQRT(((G4-1)*F4^2+(G5-1)*F5^2)/(G4+G5-2))	6

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Using Individual Sample Standard Deviations

					Mean1	Overlap?	Mean2		8
95% margin of error	3.28	=CONFIDENCE.T(C$5,F4,G4)	Grp1 CI	95.7	100	104.3			9
95% margin of error	4.26	=CONFIDENCE.T(C$5,F5,G5)	Grp2 CI			103.7	108	112.3	10
						Overlap			11

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Using Pooled Sample Standard Deviation

					Mean1	Overlap?	Mean2		13
95% margin of error	3.49	=CONFIDENCE.T(C$5,F$6,G4)	Grp1 CI	96.0	100	104.0			14
95% margin of error	3.97	=CONFIDENCE.T(C$5,F$6,G5)	Grp2 CI			104.0	108	112.0	15

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COMPARING CONFIDENCE INTERVALS OF SAMPLE PROPORTIONS   18

Note: Groups 1 and 2 must be chosen so that Proportion1 is less than Proportion2.   19

Manual entry

		Samples	P	Size	Std. Dev		
confidence level	95	Group 1	0.1	15	0.300	=SQRT(E21*(1-E21))	21
Level of Significance	0.05	Group 2	0.4	40	0.490	=SQRT(E22*(1-E22))	22
		Pooled			0.448		23

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Using Individual Sample Standard Deviations

					Mean1	Overlap?	Mean2		25
95% margin of error	0.17	=CONFIDENCE.T(C$5,G21,F21)	Grp1 CI	-5.7%	10.0%	25.7%			26
95% margin of error	0.16	=CONFIDENCE.T(C$5,G22,F22)	Grp2 CI			24.3%	40.0%	55.7%	27
						Overlap			28

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Using Pooled Sample Standard Deviation

					Mean1	Overlap?	Mean2		30
95% margin of error	0.25	=CONFIDENCE.T(C$5,G$23,F21)	Grp1 CI	-4.3%	10.0%	24.3%			31
95% margin of error	0.14	=CONFIDENCE.T(C$5,G$23,F22)	Grp2 CI			25.7%	40.0%	54.3%	32