Math / Statistics

APMA 3120 MIDTERM

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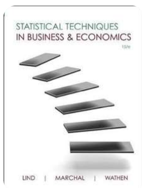

Statistical Techniques in Business and Economics

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Douglas A. Lind, Samuel A. Wathen, William G. Marchal

1,236 solutions

Terms in this set (19)

standardize RV X	$(x-\mu)/\sigma$
C.I. - normal dist and known sigma	$[x\pm(z\_\alpha/2)(\sigma/\sqrt{n})$
C.I. - non-normal and unknown sigma; large sample	$[x\pm(z\_\alpha/2)(s/\sqrt{n})]$
C.I. - normal and unknown sigma; small sample	$[x\pm(t\_\alpha/2)(s/\sqrt{n})]$
Type I Error	Null correct but we reject
Type II Error	Null false but we fail to reject
Hypothesis Test for M (1 sample) - Normal and sigma known	$z=(x-\mu)/(\sigma/\sqrt{n})$
Hypothesis Test for M (1 sample) - Non-normal, sigma unknown, large sample (n>=30)	$z=(x-\mu)/(s/\sqrt{n})$
Hypothesis Test for M (1 sample) - normal, sigma unknown, small sample (n<30)	$t=(x-\mu)/(s/\sqrt{n})$; $df=n-1$
Power of Test	$1-\beta(\mu')$
Hypothesis Test for proportion (1 sample)	$z=(p\wedge-p0)/\sqrt{[(p0*(1-p0)]/N]}$; check $>=10$

Hypothesis Test for Variance (1 sample)	X^2=[(N−1)*s^2]/(σ0)^2; df=n−1
Hypothesis Test for M (2 sample) - normal & sigma known	z=(x_1−x_2−∆)/√{[(σ1)^2/n1]+[(σ2)^2/n2]}
Hypothesis Test for M (2 sample) - non-normal, sigma unknown, and large samples (n1,n2>=40)	z=(x_1−x_2−∆)/√{[(s1)^2/n1]+[(s2)^2/n2]}
Hypothesis Test for M (2 sample) - normal, sigma unknown, and small samples (n1,n2<40); sigma1=sigma2	t=(x_1−x_2−∆)/√{[(sp)^2/n1]+[(sp)^2/n2]}; df=n1+n2−2; sp^2=[(n1−1)s1^2+(n2−1)s2^2]/(n1+n2−2)
Hypothesis Test for M (2 sample) - normal, sigma unknown, and small samples (n1,n2<40); sigma1 != sigma2	t=(x_1−x_2−∆)/√{[(s1)^2/n1]+[(s2)^2/n2]}; df=ugly #
Paired T Test	t=(D−∆)/(sd/√n); df=n−1
Hypothesis Test for Proportion (2 samples)	z=(p1^−p2^)/√{[(p~)(1−p~)]/n1+[(p~)(1−p~)]/n2]}; p~=(x1+x2)/(n1+n2); check >=10
Hypothesis Test for Variance (2 samples)	F=s1^2/s2^2; v1=n1−1; v2=n2−1