MATH 4581 : F18

HW2

① $z = 14.067$

② $n=11$: $P(X \geq 19.675) = 0.05$

③ $X+Y+Z \sim \chi^2(28) \Rightarrow z = 48.278$

④ $F \sim F(7,3) \Rightarrow z = 5.26619$

⑤ $P(T \geq 1.476) = 0.1 \Rightarrow P(T \leq z) = 0.95 \Rightarrow z = 2.015$

⑥ $t = \left| \frac{\bar{X} - \mu_0}{S/\sqrt{n}} \right| = 0.894$: $p = 0.395 \Rightarrow$ accept H_0 at 5% level.

⑦

X	1	2	3	4	Total
prob.	0.4	0.3	0.2	0.1	1
Observed	85	70	25	20	200
Expected	80	60	40	20	200

$df = t-1 = 3$. $\chi^2 = 7.604$

$p = 0.055 > 0.01$

$\Rightarrow$ accept H_0 at 1% level.