國立虎尾科技大學九十七學年度研究所（碩士班）考試入學試題

所別：工業工程與管理研究所
科目：統計學

注意事項：
（1）本試題共有選擇題十二題和計算題三題。請依序作答並在答案卷上註明題號。
（2）另有四個附表。(第 4 頁~第 7 頁)

壹、選擇題(每題 5 分)：

1. 設某加油站於離峰時間進入加油的汽車數為平均每小時 24 輛的 Poisson 分配，而進入加油的機車數為平均每小時 12 輛的 Poisson 分配。若進入該加油站加油的汽、機車是相互獨立的，則於離峰時間之某 10 分鐘內進入該加油站加油的車輛數為 4 輛的機率為何？

   (A)0.1339　(B)0.1606　(C)0.0892　(D)0.1377　(E)以上皆非

2. 設 $X \sim N(10, 4)$（亦即平均數為 10 且變異數為 4 的常態分配）且 $Y \sim N(6, 9)$。若 X 和 Y 的相關係數為 $\rho(X,Y) = -\frac{1}{3}$，則 $\Pr\{13 \le X + Y \le 22\} = ?$

   (A)0.8185　(B)0.6757　(C)0.8285　(D)0.6857　(E)以上皆非

3. 設一個紙箱裝有白球 950 顆和黑球 50 顆。今從此箱中隨機抽出 40 顆球（不放回），則此 40 顆球中包含 4 顆黑球的機率為何？

   (A)0.2018　(B)0.1904　(C)0.0902　(D)0.0361　(E)以上皆非

4. 已知某工廠有 A 和 B 兩條生產線，其產量各佔 70%和 30%且不良率分別為 0.1 和 0.15；兩條生產線之產品則混合堆疊於倉庫中。今假若從倉庫中隨機抽出一件產品且經檢驗後發現為不良品，則此不良品是 A 生產線所生產的機率為何？ (A)0.6419　(B)0.6252　(C)0.6087　(D)0.5814　(E)以上皆非

5. 設某種不可維修產品的壽命服從平均數為 4 年的指數分配。若已知有一個這樣的產品已使用了 7 年，則此產品仍能再使用 3 年的機率為何？

   (A)0.6480　(B)0.3689　(C)0.5233　(D)0.4724　(E)以上皆非

6. 設 S 為某隨機試驗的樣本空間且 A, B, C 為非空的事件，下列敘述何者錯誤？

(A)若 P(A|B)=P(A)，則 P(B|A)=P(B)　(B)S 必與 B 相互獨立

(C)若 A, B, C 兩兩相互獨立，則 A, B, C 相互獨立

(D)若 P(A∩B)=P(A∩C)，則 P(B|A)=P(C|A)

7. 設 $X_1, X_2, ..., X_n$ 為取自 $N(\mu, \sigma^2)$ 的一組隨機樣本，則下列何者不是 μ 的不偏估計量(unbiased estimator)?

(A) $X_1, X_2, ..., X_n$ 的中位數　(B) $\frac{X_1 + 2X_2 + 3X_3}{6}$　(C) $\frac{X_1 + X_n}{2}$

(D) $X_1 + X_2 - \mu$　(E)以上皆非

8. 設 $f(x, y) = K * x^3(1 - y^2)$, $0 \le x \le 1$, $0 \le y \le x$, 是一個機率密度函數，則 K 值為何?(A) $\frac{105}{16}$ (B) $\frac{100}{21}$ (C) $\frac{121}{7}$ (D) $\frac{27}{4}$ (E)以上皆非

9. 設 X 服從平均數為 3 的指數分配，則 $E[2X^2 - 4X]$=?

(A) 18　(B) 20　(C)24　(D) 30　(E)以上皆非

10. 設 $X_1, X_2, ..., X_n$ 為一組取自平均數為 μ 且變異數為 σ^2 之某一分配的隨機樣本。令 $\overline{X} = \frac{1}{n}\sum_{i=1}^{n} X_i$ 且 $S_n^2 = \frac{1}{n}\sum_{i=1}^{n}(X_i - \overline{X})^2$，則下列敘述何者錯誤？

(A) $\overline{X}$ 和 S_n^2 相互獨立 (B) $E[S_n^2] = \frac{n-1}{n}\sigma^2$ (C) $E[\overline{X}] = \mu$ (D) $\mathrm{Var}[\overline{X}] = \frac{\sigma^2}{n}$

11. 在一個大城市的市長選舉中，某候選人委託民調公司調查其民意支持度 p，若希望所得之 p 值的 95%信賴區間的長度在 0.1 以下，則至少需隨機抽取幾位合格的選民樣本？

(A)365　(B)385　(C)405　(D)425　(E)以上皆非

12. 設某麵包店老闆宣稱其製作的葡萄土司平均重量至少有 400 公克。若經隨機取得該店 25 條葡萄土司秤重後得到該批樣本的標準差為 s=16 公克，則在顯著水準 α=0.05 下，該批樣本的平均數低於何值時才能否定該店老闆的宣稱？

(A)405.48　(B)394.52　(C)405.26　(D)394.74　(E)以上皆非

貳、計算題：

1. Consider the following regression model:

$$Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i,\ i=1, 2, \ldots, n$$

where β_0 and β_1 are unknown parameters; ε_i is the error term. Let $\hat{\beta}_0$ and $\hat{\beta}_1$ denote the least squares estimators (LSEs) of β_0 and β_1, $\hat{Y} = \hat{\beta}_0 + \hat{\beta}_1 X$ the fitted regression line, and $e_i = Y_i - \hat{Y}_i$, $i=1, 2, \ldots, n$.

(a) (10 points) Find the LSEs $\hat{\beta}_0$ and $\hat{\beta}_1$.

(b) (5 points) Explain why the fitted regression line always goes through the point $(\overline{X}, \overline{Y})$.

2. (15 points)某一城市每天汽車意外事件在過去的 80 天裡，其次數分配如下所示：

意外事件次數	0	1	2	3	4
觀察次數（天）	34	25	11	7	3

請問這些資料能支持每天意外事件次數呈 Poisson 分配？α=0.05，$\chi^2_{0.952}(2 = 5.991),\ \chi^2_{0.952}(3 = 7.815),\ \chi^2_{0.952}(4 = 9.488)$

3. (10 points) 假設由四位老師分別講授同一門課程，學期終了時，以同一份試題進行測驗，所得的四組成績如下：

第一組：$X_{11}, X_{12}, \ldots, X_{17}$　　第二組：$X_{21}, X_{22}, \ldots, X_{27}$

第三組：$X_{31}, X_{32}, \ldots, X_{37}$　　第四組：$X_{41}, X_{42}, \ldots, X_{47}$

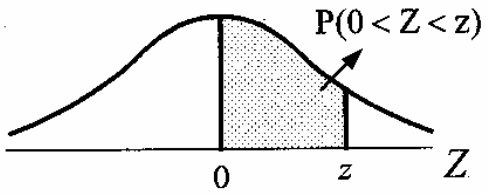
若已知 $\overline{x}_1 = 75$、$\overline{x}_2 = 78.43$、$\overline{x}_3 = 72.86$、$\overline{x}_4 = 81.57$ 且 $SST = 2180.7277$，試製作 ANOVA 表。若各組學生的資質與努力程度相當，則在顯著水準 α=0.05 下檢定教師的講授效果是否不同。(已知各組的成績皆呈變異數相等的常態分配) $F_{0.05}(4,23)$=2.796, $F_{0.05}(3,24)$=3.009, $F_{0.05}(4,24)$=2.776, $F_{0.05}(3,25)$=2.991

表一：二項分配機率表：$f_x(x,n,p) = C_x^n P^x (1-P)^{n-x}$

n	x	0.01	0.05	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0.95	0.99
2	0	.980	.902	.810	.640	.490	.360	.250	.160	.090	.040	.010	.002	0+
	1	.020	.095	.180	.320	.420	.480	.500	.480	.420	.320	.108	.095	.020
	2	0+	.002	.010	.040	.090	.160	.250	.360	.490	.640	.810	.092	.980
3	0	.970	.857	.729	.512	.343	.216	.125	.064	.027	.008	.001	0+	0+
	1	.029	.135	.243	.384	.441	.432	.375	.288	.189	.096	.027	.007	0+
	2	0+	.007	.027	.096	.189	.288	.375	.432	.441	.384	.243	.135	.029
	3	0+	0+	.001	.008	.027	.064	.125	.216	.343	.512	.729	.857	.970
4	0	.961	.815	.656	.410	.240	.130	.062	.026	.008	.002	0+	0+	0+
	1	.039	.171	.292	.410	.412	.346	.250	.154	.076	.026	.004	0+	0+
	2	.001	.014	.049	.154	.256	.346	.375	.346	.256	.154	.049	.014	.001
	3	0+	0+	.004	.026	.076	.154	.250	.346	.412	.410	.292	.171	.039
	4	0+	0+	0+	.002	.008	.026	.062	.130	.240	.410	.656	.815	.961
5	0	.951	.774	.590	.328	.168	.078	.031	.010	.002	0+	0+	0+	0+
	1	.048	.204	.328	.410	.360	.259	.056	.077	.028	.006	0+	0+	0+
	2	.001	.021	.073	.205	.309	.346	.312	.230	.132	.051	.008	.001	0+
	3	0+	.001	.008	.051	.132	.230	.312	.346	.309	.205	.073	.021	.001
	4	0+	0+	0+	.006	.028	.077	.156	.259	.360	.410	.328	.204	.048
	5	0+	0+	0+	0+	.002	.010	.031	.078	.168	.328	.590	.774	.951
6	0	.941	.735	.531	.262	.118	.047	.016	.004	.001	0+	0+	0+	0+
	1	.057	.232	.354	.393	.303	.187	.094	037	.010	.002	0+	0+	0+
	2	.001	.031	.098	.246	.324	.311	.234	.138	.060	.015	.001	0+	0+
	3	0+	.002	.015	.082	.185	.276	.312	.276	.185	.082	.015	.002	0+
	4	0+	0+	.001	.015	.060	.138	.234	.311	.324	.246	.098	.031	.001
	5	0+	0+	0+	.002	.010	.037	.094	.187	.303	.393	.354	.232	.057
	6	0+	0+	0+	0+	.001	.004	.016	.047	.118	.262	.531	.735	.941
7	0	.932	.698	.478	.210	.082	.028	.008	.002	0+	0+	0+	0+	0+
	1	.066	.257	.372	.367	.247	.131	.055	.017	.004	0+	0+	0+	0+
	2	.002	.041	.124	.275	.318	.261	.064	.077	.025	.004	0+	0+	0+
	3	0+	.004	.023	.115	.227	.290	.273	.194	.097	.029	.003	0+	0+
	4	0+	0+	.003	.029	.097	.194	.273	.290	.227	.115	.023	.004	0+
	5	0+	0+	0+	.004	.025	.077	.164	.261	.318	.275	.124	.041	.002
	6	0+	0+	0+	0+	.004	.017	.055	.131	.247	.367	.372	.257	.066
	7	0+	0+	0+	0+	0+	.002	.008	.028	.082	.210	.478	.698	.932
8	0	.932	.663	.430	.168	.058	.017	.004	.001	0+	0+	0+	0+	0+
	1	.075	.279	.383	.336	.198	.090	.031	.008	.001	0+	0+	0+	0+
	2	.003	.510	.149	.294	.296	.209	.109	.041	.010	.001	0+	0+	0+
	3	0+	.005	.033	.147	.254	.279	.219	.124	.047	.009	0+	0+	0+
	4	0+	0+	.005	.046	.136	.232	.273	.232	.136	.046	.005	0+	0+
	5	0+	0+	0+	.009	.047	.124	.219	.279	.254	.147	.033	.005	0+
	6	0+	0+	0+	.001	.010	.041	.109	.209	.296	.294	.149	.051	.003
	7	0+	0+	0+	0+	.001	.008	.031	.090	.198	.336	.383	.279	.075
	8	0+	0+	0+	0+	0+	.001	.004	.017	.058	.168	.430	.663	.923
9	0	.914	.630	.387	.134	.040	.010	.002	0+	0+	0+	0+	0+	0+
	1	.083	.299	.387	.302	.156	.060	.018	.004	0+	0+	0+	0+	0+
	2	.003	.063	.172	.302	.267	.161	.070	.021	.004	0+	0+	0+	0+
	3	0+	.008	.045	.176	.267	.251	.164	.074	.021	.003	0+	0+	0+
	4	0+	.001	.007	.066	.172	.251	.246	.167	.074	.017	.001	0+	0+
	5	0+	0+	.001	.017	.074	.167	.246	.251	.172	.066	.007	.001	0+
	6	0+	0+	0+	.003	.021	.074	.164	.251	.267	.176	.045	.008	0+
	7	0+	0+	0+	0+	.004	.021	.070	.161	.267	.302	.172	.063	.003
	8	0+	0+	0+	0+	0+	.004	.018	.060	.156	.302	.387	.299	.083
	9	0+	0+	0+	0+	0+	0+	.002	.010	.040	.134	.387	.630	.914
10	0	.904	.599	.349	.107	.028	.006	.001	0+	0+	0+	0+	0+	0+
	1	.091	.315	.387	.268	.0121	.040	.010	.002	0+	0+	0+	0+	0+
	2	.004	.075	.194	.302	.233	.121	.044	.011	.001	0+	0+	0+	0+
	3	0+	.010	.057	.201	.267	.215	.117	.042	.009	.001	0+	0+	0+
	4	0+	.001	.011	.088	.200	.251	.205	.111	.037	.006	0+	0+	0+
	5	0+	0+	.001	.026	.103	.201	.246	.201	.103	.026	.001	0+	0+
	6	0+	0+	0+	.006	.037	.111	.205	.251	.200	.088	.011	.001	0+
	7	0+	0+	0+	.001	.009	.042	.117	.215	.267	.201	.057	.010	0+
	8	0+	0+	0+	0+	.001	.011	.044	.121	.233	.302	.194	.075	.004
	9	0+	0+	0+	0+	0+	.002	.010	.040	.121	.268	.387	.315	.091
	10	0+	0+	0+	0+	0+	0+	.001	.006	.028	.107	.349	.599	.904

表二：標準常態分配表 (Standard Normal distribution table)

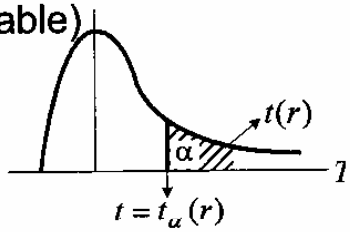
$$P(0<Z<z)=\int_0^z \frac{1}{\sqrt{2\pi}}\exp(-\frac{x^2}{2})dx$$



Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.258	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.291	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.334	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.377	0.379	0.381	0.383
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.398	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.437	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.483	0.4834	0.4838	0.4842	0.4846	0.485	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.489
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.492	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.494	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.496	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.497	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.498	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.499	0.499
3.1	0.499	0.4991	0.4991	0.4991	0.4992	0.4992	0.4992	0.4992	0.4993	0.4993
3.2	0.4993	0.4993	0.4994	0.4994	0.4994	0.4994	0.4994	0.4995	0.4995	0.4995
3.3	0.4995	0.4995	0.4995	0.4996	0.4996	0.4996	0.4996	0.4996	0.4996	0.4997
3.4	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4998
3.5	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998
3.6	0.4998	0.4998	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999

表四：t 分配臨界值表 (t distribution critical value table)

$$P(T > t) = \int_t^{\infty} \frac{\Gamma(\frac{r+1}{2})}{\Gamma(\frac{r}{2})} \frac{1}{\sqrt{r\pi}} (1+\frac{x^2}{r})^{-\frac{r+1}{2}} dx = \alpha \text{，其中} T \sim t(r)$$



$(1-\alpha)$之值

Df=r	0.700	0.800	0.900	0.950	0.975	0.990	0.995	0.999
1	0.727	1.376	3.078	6.314	12.706	31.821	63.657	318.309
2	0.617	1.061	1.886	2.920	4.303	6.965	9.925	22.327
3	0.584	0.978	1.638	2.353	3.182	4.541	5.841	10.215
4	0.569	0.941	1.533	2.132	2.776	3.747	4.604	7.173
5	0.559	0.920	1.476	2.015	2.571	3.365	4.032	5.893
6	0.553	0.906	1.440	1.943	2.447	3.143	3.707	5.208
7	0.549	0.896	1.415	1.895	2.365	2.998	3.499	4.785
8	0.546	0.889	1.397	1.860	2.306	2.896	3.355	4.501
9	0.543	0.883	1.383	1.833	2.262	2.821	3.250	4.297
10	0.542	0.879	1.372	1.812	2.228	2.764	3.169	4.144
11	0.540	0.876	1.363	1.796	2.201	2.718	3.106	4.025
12	0.539	0.873	1.356	1.782	2.179	2.681	3.055	3.930
13	0.538	0.870	1.350	1.771	2.160	2.650	3.012	3.852
14	0.537	0.868	1.345	1.761	2.145	2.624	2.977	3.787
15	0.536	0.866	1.341	1.753	2.131	2.602	2.947	3.733
16	0.535	0.865	1.337	1.746	2.120	2.583	2.921	3.686
17	0.534	0.863	1.333	1.740	2.110	2.567	2.898	3.646
18	0.534	0.862	1.330	1.734	2.101	2.552	2.878	3.610
19	0.533	0.861	1.328	1.729	2.093	2.539	2.861	3.579
20	0.533	0.860	1.325	1.725	2.086	2.528	2.845	3.552
21	0.532	0.859	1.323	1.721	2.080	2.518	2.831	3.527
22	0.532	0.858	1.321	1.717	2.074	2.508	2.819	3.505
23	0.532	0.858	1.319	1.714	2.069	2.500	2.807	3.485
24	0.531	0.857	1.318	1.711	2.064	2.492	2.797	3.467
25	0.531	0.856	1.316	1.708	2.060	2.485	2.787	3.450
26	0.531	0.856	1.315	1.706	2.056	2.479	2.779	3.435
27	0.531	0.855	1.314	1.703	2.052	2.473	2.771	3.421
28	0.530	0.855	1.313	1.701	2.048	2.467	2.763	3.408
29	0.530	0.854	1.311	1.699	2.045	2.462	2.756	3.396
30	0.530	0.854	1.310	1.697	2.042	2.457	2.750	3.385
40	0.529	0.851	1.303	1.684	2.021	2.423	2.704	3.307
50	0.528	0.849	1.299	1.676	2.009	2.403	2.678	3.261
60	0.527	0.848	1.296	1.671	2.000	2.390	2.660	3.232
70	0.527	0.847	1.294	1.667	1.994	2.381	2.648	3.211
80	0.526	0.846	1.292	1.664	1.990	2.374	2.639	3.195
90	0.526	0.846	1.291	1.662	1.987	2.368	2.632	3.183
100	0.526	0.845	1.290	1.660	1.984	2.364	2.626	3.174
120	0.526	0.845	1.289	1.658	1.980	2.358	2.617	3.160
∞	0.524	0.842	1.282	1.645	1.960	2.326	2.576	3.092

表十一：波瓦松分配機率值表　　$P(X=x)=\frac{e^{-\lambda}\lambda^{x}}{x!}$

	λ									
x	***0.1***	***0.2***	***0.3***	***0.4***	***0.5***	***0.6***	***0.7***	***0.8***	***0.9***	***1.0***
0	.9048	.8187	.7408	.6703	.6065	.5488	.4966	.4493	.4066	.3679
1	.0905	.1637	.2222	.2681	.3033	.3293	.3476	.3595	.3659	.3679
2	.0045	.0164	.0333	.0536	.0758	.0988	.1217	.1438	.1647	.1839
3	.0002	.0011	.0033	.0072	.0126	.0198	.0284	.0383	.0494	.0613
4	.0000	.0001	.0003	.0007	.0016	.0030	.0050	.0077	.0111	.0153
5	.0000	.0000	.0000	.0001	.0002	.0004	.0007	.0012	.0020	.0031
6	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0003	.0005
7	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001

	λ									
x	***1.5***	***2.0***	***2.5***	***3.0***	***3.5***	***4.0***	***4.5***	***5.0***	***5.5***	***6.0***
0	.2231	.1353	.0821	.0498	.0302	.0183	.0111	.0067	.0041	.0025
1	.3347	.2707	.2052	.1494	.1057	.0733	.0500	.0337	.0225	.0149
2	.2510	.2707	.2565	.2240	.1850	.1456	.1125	.0842	.0618	.0446
3	.1255	.1804	.2138	.2240	.2158	.1954	.1687	.1404	.1133	.0892
4	.0471	.0902	.1336	.1680	.1888	.1954	.1898	.1755	.1558	.1339
5	.0141	.0361	.0668	.1008	.1322	.1563	.1708	.1755	.1714	.1606
6	.0035	.0120	.0278	.0504	.0771	.1042	.1281	.1462	.1571	.1606
7	.0008	.0034	.0099	.0216	.0385	.0595	.0824	.1044	.1234	.1377
8	.0001	.0009	.0031	.0081	.0169	.0298	.0463	.0653	.0849	.1033
9	.0000	.0002	.0009	.0027	.0066	.0132	.0232	.0363	.0519	.0688
10	.0000	.0000	.0002	.0008	.0023	.0053	.0104	.0181	.0285	.0413
11	.0000	.0000	.0000	.0002	.0007	.0019	.0043	.0082	.0143	.0225
12	.0000	.0000	.0000	.0001	.0002	.0006	.0016	.0034	.0065	.0113
13	.0000	.0000	.0000	.0000	.0001	.0002	.0006	.0013	.0028	.0052
14	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0005	.0011	.0022
15	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0002	.0004	.0009
16	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001	.0003
17	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0001