

UNIVERSITI KUALA LUMPUR  
BUSINESS SCHOOL

---

FINAL EXAMINATION  
OCTOBER 2025 SEMESTER

---

COURSE CODE : EGB 10103  
COURSE NAME : ECONOMIC STATISTICS 1  
PROGRAMME NAME : BACHELOR OF SCIENCE (HONS) ANALYTICAL  
ECONOMICS  
TIME / DURATION : 09:00AM - 12.00PM / 3 HOURS  
DATE : 27 JANUARY 2026

---

INSTRUCTIONS TO CANDIDATES

---

1. Please **CAREFULLY** read the instructions given in the question paper.
2. This question paper has information printed on both sides of the paper.
3. This question paper consists of **FIVE (5)** questions. Answer **ALL** questions.
4. Please write your name and student id at every single page of your answer sheet.
5. All questions must be answered in **English** (any other language is not allowed).
6. This question paper must not be removed from the examination hall.

---

**THERE ARE FIVE (5) PAGES OF QUESTIONS INCLUDING THIS PAGE**

---

**(Total: 100 marks)****Question 1**

- (a) The table below show the responses of 200 executives in a survey about their loyalty to company.

LOYALTY	Length of Service			
	< 1 Year	1-5 Years	6-10 Years	>10 Years
Remain	10	30	5	75
Not Remain	25	15	10	30

- i. Construct a tree diagram to illustrate the above survey. [5 marks]
- ii. Calculate the probability of selecting an executive who is loyal (would remain) or has less than 1 year of experience. [2 marks]
- iii. Calculate the probability of selecting an executive who is loyal (would remain) and has more than 10 years of service. [3 marks]
- (b) The probability that Ali wins a match is 0.8. If he plays 6 consecutive matches, find the probability that he will win at least 5 matches. [3 marks]
- (c) The probability that Siti passes Mathematics is  $\frac{2}{3}$  and the probability that she passes English is  $\frac{4}{9}$ . If the probability of passing both courses is  $\frac{1}{4}$ , calculate the probability that Siti will pass at least one of these courses. [3 marks]
- (d) Suppose that a scheduled flight departs on time, the given probability  $P(D) = 0.83$  and the probability that it arrives on time is  $P(A) = 0.82$ . Also, the probability that its departing and arriving on time is given by  $P(A \cap D) = 0.78$ . Determine the probability that the aircraft arrives on time given that it departed on time. [4 marks]

**Question 2**

- (a) The probability that a certain kind of component will survive a given shock test is  $\frac{3}{4}$ . Calculate the probability that exactly 2 of the next 4 components tested survive. [4 marks]
- (b) Each sample of water from river has 10% chance of contamination by heavy metal.
- Determine the probability that in 18 independent samples taken from the same river, only 2 samples were contaminated. [4 marks]
  - Calculate the probability that in 18 independent samples taken from the same river, at least 4 samples were contaminated. [4 marks]
  - Calculate the probability that in 18 independent samples taken from the same river, at least 3 but less than 7 samples were contaminated. [4 marks]
- (c) A small voting district has 101 female voters and 95 male voters. A random sample of 10 voters is drawn. Determine the probability exactly 7 of the voters will be female. [4 marks]

**Question 3**

- (a) Calculate the probabilities for each, using the standard normal distribution.
- $P(0 < z \leq 1)$  [2 marks]
  - $P(z > 1.75)$  [1 mark]
  - $P(-1.65 < z \leq 1.93)$  [2 marks]
- (b) The mass of apple from A farm is normally distributed with mean 550g and variance  $256\text{g}^2$ . If 120 of apple have masses between 510g and 570g, determine the total number of apple from the farm. [4 marks]

- (c) According to recent survey, 30% of households have company medical insurance that cover every family member. If a random sample of 200 households is selected, use the normal approximation to find the probability.

Let  $X \sim B(200, 0.3)$

- i.  $P(X = 70)$  [2 marks]
- ii.  $P(52 < X < 59)$  [3 marks]
- iii.  $P(66 \leq X \leq 76)$  [3 marks]
- iv.  $P(48 < X \leq 61)$  [3 marks]

#### Question 4

For most recent year available, the mean annual cost to attend a private university in the United States was \$26,889. Assume the distribution of annual costs follows the normal probability distribution and the standard deviation is \$4,500. Calculate:

- (a) The probability that a student will have to pay more than \$25,000 to attend a private university. [5 marks]
- (b) The probability that a student will have to pay no more than \$23,500 to attend a private university. [5 marks]
- (c) The probability that a student will pay more than \$30,000 to attend a private university. [5 marks]
- (d) The probability that a student will pay between \$20,000 and \$28,000 to attend a private university. [5 marks]

## Question 5

- (a) During peak hours, the arrival of customers at a fast-food restaurant is random with an average rate of 90 customers per hour. Calculate:
- The probability that exactly two customers will arrive at the restaurant within a specified one-minute period during peak hours.  
[4 marks]
  - The probability that at least four customers will arrive within a specified two-minute period during peak hours.  
[4 marks]
- (b) In a production line, it is known that, on average, for every 500 items produced there will be one defective item. Determine the probability that a random sample of 5000 items will result in less than 8 defectives.  
[4 marks]
- (c) A monitor issues a warning signal when an action is needed as part of a production process. The interval,  $X$  hours, between successive signals follows an exponential distribution with parameter 0.08. Calculate the probability that the interval between the next two signals is:
- Between 10 and 20 hours.  
[4 marks]
  - Less than two hours.  
[2 marks]
  - Longer than 50 hours.  
[2 marks]

**END OF EXAMINATION PAPER**

## LIST OF FORMULAE FOR EGB 10103 ECONOMIC STATISTICS 1

### INTRODUCTION TO PROBABILITY

#### Counting Rule for Combinations

$$C_n^N = \binom{N}{n} = \frac{N!}{n!(N-n)!}$$

#### Counting Rule for Permutations

$$P_n^N = n! \binom{N}{n} = \frac{N!}{(N-n)!}$$

#### Computing Probability Using the Complement

$$P(A) = 1 - P(A^c)$$

#### Addition Law

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

#### Conditional Probability

$$P(A | B) = \frac{P(A \cap B)}{P(B)}$$

$$P(B | A) = \frac{P(A \cap B)}{P(A)}$$

#### Multiplication Law

$$P(A \cap B) = P(B)P(A | B)$$

$$P(A \cap B) = P(A)P(B | A)$$

### CONTINUOUS PROBABILITY DISTRIBUTION

#### Uniform Probability Density Function

$$f(x) = \begin{cases} \frac{1}{b-a} & \text{for } a \leq x \leq b \\ 0 & \text{elsewhere} \end{cases}$$

#### Normal Probability Density Function

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$

#### Converting to the Standard Normal Random Variable

$$z = \frac{x - \mu}{\sigma}$$

#### Exponential Probability Density Function

$$f(x) = \frac{1}{\mu} e^{-x/\mu} \quad \text{for } x \geq 0$$

#### Exponential Distribution: Cumulative Probabilities

$$P(x \leq x_0) = 1 - e^{-x_0/\mu}$$

### DISCRETE PROBABILITY DISTRIBUTION

#### Binomial Probability Function

$$f(x) = \binom{n}{x} p^x (1-p)^{(n-x)}$$

#### Expected Value for the Binomial Distribution

$$E(x) = \mu = np$$

#### Variance for the Binomial Distribution

$$Var(x) = \sigma^2 = np(1-p)$$

#### Poisson Probability Function

$$f(x) = \frac{\mu^x e^{-\mu}}{x!}$$

#### Hypergeometric Probability Function

$$f(x) = \frac{\binom{r}{x} \binom{N-r}{n-x}}{\binom{N}{n}}$$

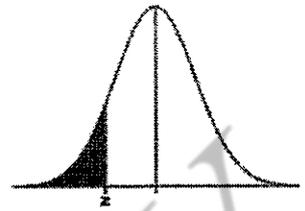
#### Expected Value for the Hypergeometric Distribution

$$E(x) = \mu = n \left( \frac{r}{N} \right)$$

#### Variance for the Hypergeometric Distribution

$$Var(x) = \sigma^2 = n \left( \frac{r}{N} \right) \left( 1 - \frac{r}{N} \right) \left( \frac{N-n}{N-1} \right)$$

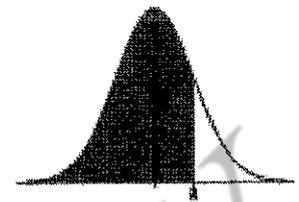
## Standard Normal Cumulative Probability Table



Cumulative probabilities for NEGATIVE z-values are shown in the following table:

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-3.4	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002
-3.3	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003
-3.2	0.0007	0.0007	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005	0.0005	0.0005
-3.1	0.0010	0.0009	0.0009	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007	0.0007
-3.0	0.0013	0.0013	0.0013	0.0012	0.0012	0.0011	0.0011	0.0011	0.0010	0.0010
-2.9	0.0019	0.0018	0.0018	0.0017	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014
-2.8	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021	0.0020	0.0019
-2.7	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0026
-2.6	0.0047	0.0045	0.0044	0.0043	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036
-2.5	0.0062	0.0060	0.0059	0.0057	0.0055	0.0054	0.0052	0.0051	0.0049	0.0048
-2.4	0.0082	0.0080	0.0078	0.0075	0.0073	0.0071	0.0069	0.0068	0.0066	0.0064
-2.3	0.0107	0.0104	0.0102	0.0099	0.0096	0.0094	0.0091	0.0089	0.0087	0.0084
-2.2	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110
-2.1	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143
-2.0	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183
-1.9	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233
-1.8	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294
-1.7	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367
-1.6	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455
-1.5	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559
-1.4	0.0808	0.0793	0.0778	0.0764	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681
-1.3	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823
-1.2	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985
-1.1	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170
-1.0	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379
-0.9	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611
-0.8	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867
-0.7	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148
-0.6	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451
-0.5	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776
-0.4	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121
-0.3	0.3821	0.3783	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483
-0.2	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859
-0.1	0.4602	0.4562	0.4522	0.4483	0.4443	0.4404	0.4364	0.4325	0.4286	0.4247
0.0	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641

## Standard Normal Cumulative Probability Table



Cumulative probabilities for POSITIVE z-values are shown in the following table:

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

## B.5 Student's t Distribution



Confidence interval



Left-tailed test



Right-tailed test



Two-tailed test

Confidence intervals, $c$						
df	80%	90%	95%	98%	99%	99.9%
	Level of Significance for One-Tailed Test, $\alpha$					
	0.10	0.05	0.025	0.01	0.005	0.0005
	Level of Significance for Two-Tailed Test, $\alpha$					
	0.20	0.10	0.05	0.02	0.01	0.001
1	3.078	6.314	12.708	31.821	63.657	636.619
2	1.886	2.920	4.303	6.965	9.925	31.599
3	1.638	2.353	3.182	4.541	5.841	12.924
4	1.533	2.132	2.776	3.747	4.604	8.610
5	1.476	2.015	2.571	3.365	4.032	6.869
6	1.440	1.943	2.447	3.143	3.707	5.959
7	1.415	1.895	2.365	2.998	3.499	5.408
8	1.397	1.860	2.308	2.896	3.355	5.041
9	1.383	1.833	2.262	2.821	3.250	4.781
10	1.372	1.812	2.228	2.764	3.169	4.587
11	1.363	1.796	2.201	2.718	3.106	4.437
12	1.356	1.782	2.179	2.681	3.055	4.318
13	1.350	1.771	2.160	2.650	3.012	4.221
14	1.345	1.761	2.145	2.624	2.977	4.140
15	1.341	1.753	2.131	2.602	2.947	4.073
16	1.337	1.746	2.120	2.583	2.921	4.015
17	1.333	1.740	2.110	2.567	2.898	3.965
18	1.330	1.734	2.101	2.552	2.878	3.922
19	1.328	1.729	2.093	2.539	2.861	3.883
20	1.325	1.725	2.088	2.528	2.845	3.850
21	1.323	1.721	2.080	2.518	2.831	3.819
22	1.321	1.717	2.074	2.508	2.819	3.792
23	1.319	1.714	2.068	2.500	2.807	3.768
24	1.318	1.711	2.064	2.492	2.797	3.745
25	1.316	1.708	2.060	2.485	2.787	3.725
26	1.315	1.706	2.056	2.479	2.779	3.707
27	1.314	1.703	2.052	2.473	2.771	3.690
28	1.313	1.701	2.048	2.467	2.763	3.674
29	1.311	1.699	2.045	2.462	2.758	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
31	1.309	1.696	2.040	2.453	2.744	3.633
32	1.309	1.694	2.037	2.449	2.738	3.622
33	1.308	1.692	2.035	2.445	2.733	3.611
34	1.307	1.691	2.032	2.441	2.728	3.601
35	1.306	1.690	2.030	2.438	2.724	3.591

Confidence intervals, $c$						
df	80%	90%	95%	98%	99%	99.9%
	Level of Significance for One-Tailed Test, $\alpha$					
	0.10	0.05	0.025	0.01	0.005	0.0005
	Level of Significance for Two-Tailed Test, $\alpha$					
	0.20	0.10	0.05	0.02	0.01	0.001
36	1.306	1.688	2.028	2.434	2.719	3.582
37	1.305	1.687	2.026	2.431	2.715	3.574
38	1.304	1.686	2.024	2.429	2.712	3.566
39	1.304	1.685	2.023	2.426	2.708	3.558
40	1.303	1.684	2.021	2.423	2.704	3.551
41	1.303	1.683	2.020	2.421	2.701	3.544
42	1.302	1.682	2.018	2.418	2.698	3.536
43	1.302	1.681	2.017	2.416	2.695	3.532
44	1.301	1.680	2.015	2.414	2.692	3.526
45	1.301	1.679	2.014	2.412	2.690	3.520
46	1.300	1.679	2.013	2.410	2.687	3.515
47	1.300	1.678	2.012	2.408	2.685	3.510
48	1.299	1.677	2.011	2.407	2.682	3.505
49	1.299	1.677	2.010	2.405	2.680	3.500
50	1.299	1.676	2.009	2.403	2.678	3.496
51	1.298	1.675	2.008	2.402	2.676	3.492
52	1.298	1.675	2.007	2.400	2.674	3.488
53	1.298	1.674	2.006	2.399	2.672	3.484
54	1.297	1.674	2.005	2.397	2.670	3.480
55	1.297	1.673	2.004	2.396	2.668	3.476
56	1.297	1.673	2.003	2.395	2.667	3.473
57	1.297	1.672	2.002	2.394	2.665	3.470
58	1.296	1.672	2.002	2.392	2.663	3.466
59	1.296	1.671	2.001	2.391	2.662	3.463
60	1.296	1.671	2.000	2.390	2.660	3.460
61	1.296	1.670	2.000	2.389	2.659	3.457
62	1.295	1.670	1.999	2.388	2.657	3.454
63	1.295	1.669	1.998	2.387	2.656	3.452
64	1.295	1.669	1.998	2.386	2.655	3.449
65	1.295	1.668	1.997	2.385	2.654	3.447
66	1.295	1.668	1.997	2.384	2.652	3.444
67	1.294	1.668	1.996	2.383	2.651	3.442
68	1.294	1.668	1.995	2.382	2.650	3.439
69	1.294	1.667	1.995	2.382	2.649	3.437
70	1.294	1.667	1.994	2.381	2.648	3.435

(continued)

Confidence Intervals, $c$						
$df$	80%	90%	95%	98%	99%	99.9%
	Level of Significance for One-Tailed Test, $\alpha$					
	0.10	0.05	0.025	0.01	0.005	0.0005
	Level of Significance for Two-Tailed Test, $\alpha$					
	0.20	0.10	0.05	0.02	0.01	0.001
71	1.294	1.667	1.994	2.380	2.647	3.433
72	1.293	1.668	1.993	2.379	2.648	3.431
73	1.293	1.668	1.993	2.379	2.648	3.429
74	1.293	1.668	1.993	2.378	2.644	3.427
75	1.293	1.665	1.992	2.377	2.643	3.425
76	1.293	1.665	1.992	2.376	2.642	3.423
77	1.293	1.665	1.991	2.376	2.641	3.421
78	1.292	1.665	1.991	2.375	2.640	3.420
79	1.292	1.664	1.990	2.374	2.640	3.418
80	1.292	1.664	1.990	2.374	2.639	3.416
81	1.292	1.664	1.990	2.373	2.638	3.415
82	1.292	1.664	1.989	2.373	2.637	3.413
83	1.292	1.663	1.989	2.372	2.638	3.412
84	1.292	1.663	1.989	2.372	2.638	3.410
85	1.292	1.663	1.988	2.371	2.635	3.409
86	1.291	1.663	1.988	2.370	2.634	3.407
87	1.291	1.663	1.988	2.370	2.634	3.406
88	1.291	1.662	1.987	2.369	2.633	3.405

Confidence Intervals, $c$						
$df$	80%	90%	95%	98%	99%	99.9%
	Level of Significance for One-Tailed Test, $\alpha$					
	0.10	0.05	0.025	0.01	0.005	0.0005
	Level of Significance for Two-Tailed Test, $\alpha$					
	0.20	0.10	0.05	0.02	0.01	0.001
89	1.291	1.662	1.987	2.369	2.632	3.403
90	1.291	1.662	1.987	2.368	2.632	3.402
91	1.291	1.662	1.986	2.368	2.631	3.401
92	1.291	1.662	1.986	2.368	2.630	3.399
93	1.291	1.661	1.986	2.367	2.630	3.398
94	1.291	1.661	1.986	2.367	2.629	3.397
95	1.291	1.661	1.985	2.366	2.629	3.396
96	1.290	1.661	1.985	2.366	2.628	3.395
97	1.290	1.661	1.985	2.365	2.627	3.394
98	1.290	1.661	1.984	2.365	2.627	3.393
99	1.290	1.660	1.984	2.365	2.626	3.392
100	1.290	1.660	1.984	2.364	2.626	3.390
120	1.289	1.658	1.980	2.358	2.617	3.373
140	1.288	1.656	1.977	2.353	2.611	3.361
160	1.287	1.654	1.975	2.350	2.607	3.352
180	1.286	1.653	1.973	2.347	2.603	3.345
200	1.286	1.653	1.972	2.345	2.601	3.340
$\infty$	1.282	1.645	1.960	2.326	2.576	3.291