

UNIVERSITY OF COLOMBO

FACULTY OF ARTS

SECOND YEAR EXAMINATION IN ARTS (ECONOMICS) 2017/2018

END OF THE SECOND SEMESTER

ECN 2230: ECONOMIC AND FINANCIAL ANALYSIS

TIME ALLOWED: THREE (03) HOURS

Answer to part I will be collected in ONE HOUR

Calculators Permitted. Discount Tables Provided

Answer all questions in Part I, the Compulsory Question No. 1 and any Two (02) questions of your choice from Part II

PART – I

(Answer All questions. Time allowed is One-Hour. Allocated Marks: 30)

1. Average annual profits as a ratio of initial capital investment is best defined as a measure of
(a) Profitability (b) liquidity (c) recovery speed (d) Creditworthiness
2. What among the following do you consider as a correct description of the difference between ARR and Pay-Back Period?
(a) ARR is a cash-flow concept while Pay-Back Period is not
(b) Profit flows after depreciation are used in estimating the ARR but not the Pay-Back Period
(c) Profit flows after depreciation are used in estimating the Pay-Back Period, but not the ARR
(d) Discounting is possible with regard to ARR, but not with the Pay-Back Period
3. The Capacity Utilisation at Break-Even level of operation could be defined as
(a) the total fixed costs that would be spent when no profit-no loss situation is reached
(b) the plant capacity used when profits are maximised
(c) the total sales when operated at full capacity as a ratio of total variable costs
(d) the share of fixed costs as a percentage of the total contribution at full capacity
4. Reducing Balance method of depreciation might lead to
(a) increasing tax payments over the years owing to gradually increasing post-tax profits
(b) omitting time preference of money
(c) incorrectly recording equal amounts of depreciation over the life of a project
(d) not taking into account the residual value of assets at the end of the life of a project
5. Behind unfavourable labour efficiency variance, there might be :
(a) Unfavourable direct material price variance and favourable labour rate variance
(b) Favourable working conditions and reducing labour wastage
(c) Gaining quantity discounts by buying large quantities of high quality material
(d) Inexperienced workers, low quality material and poor supervision
6. Best illustration of the problem of "Double Counting" would be,
(a) inclusion of total capital cost as initial outlay and instalment payments as annual outflows
(b) inclusion of both instalment payments and interest payments as outflows
(c) inclusion of both initial capital cost and residual value in the computation
(d) inclusion of both risk premium and expected risk-free return in the discount rate.

7. Gearing Ratio of a company reflects the level of
 - (a) its cash availability to meet the daily payment requirements
 - (b) the company's re-gear vehicle fleet
 - (c) its indebtedness
 - (d) its profitability as a ratio of its debts
8. Which among the following statements you think is true?
 - (a) FIFO gives the lowest closing stock value in times of inflation
 - (b) LIFO gives the lowest closing stock value in times of deflation
 - (c) LIFO gives the highest closing stock value in times of inflation
 - (d) FIFO gives the highest closing stock value in times of deflation
9. The Absorption Costing technique is likely to help a business operation in
 - (a) absorbing more employees for its expansion
 - (b) calculating how costly the absorption exercise has been
 - (c) allocating common costs among different sections and products
 - (d) estimating deviations away from standard costs
10. Input-Output Analysis may be helpful in
 - (a) examining the variable cost of inputs and outputs
 - (b) appraising the Incremental Capital / Output Ratio
 - (c) assessing the difference between the GNP and net factor inputs from abroad
 - (d) understanding inter-dependencies among economic sectors
11. An investor has proposed to establish a confectionary production plant with an initial investment of Rs. 10 Mn, having 5 year life, and zero residual value at the end of life. He has planned to withdraw from his bank deposit which presently earns him an annual interest of 11% to finance a sum Rs. 6 Mn, and to borrow at an interest rate of 16% per annum to finance the balance. Which rate among the following you consider as the weighted average opportunity cost of the full investment package?
 - (a) 5%
 - (b) 13%
 - (c) 15%
 - (d) 27%
12. It is estimated that the variable cost of confectionary production process would be Rs. 28 per kg, and the fixed cost of operation, without depreciation, is Rs 40,000 per month. Confectionaries produced would fetch a selling price of Rs 48 per kg. Estimate the profit break-even level of production per annum.
 - (a) 2000 kg
 - (b) 24000 kg
 - (c) 98000 kg
 - (d) 124000 kg
13. The plant has a maximum capacity to produce a maximum of 60 kg of confectionaries per hour and could operate for during a total of 3000 hours per year, throughout the plant's 5 year life. What would be the discounted pay-back period of the overall investment described in (11) and (12) above?
 - (a) 4.4 Years
 - (b) 2.5 years
 - (c) 1.2 Years
 - (d) Does not Pay back
14. What would be the NPV of this investment described in (11), (12) and (13) above?
 - (a) - Rs 1 Mn
 - (b) Rs 0 Mn
 - (c) + Rs 1 Mn
 - (d) + Rs 4 Mn

15. Estimate the IRR of the investment described in (11), (12) and (13) above.
 (a) 20% (b) 17% (c) 14% (d) 11%
16. MAS PLC has estimated that the NPVs of the Project A is + Rs 15 Mn at its opportunity cost of funds, and + Rs 5 Mn at a discount rate of 18% per annum. What could be the opportunity cost of investment funds for MAS PLC, if the IRR of this project A is 22%?
 (a) 8% p.a. (b) 10% p.a. (c) 15% p.a. (d) 20% p.a.
17. What, among the following, would be the correct definition of ICOR?
 (a) $(I/Y)/(NX/Y)$ (b) $I-(C/gY)+(DS/gY)$ (c) $(Y-C-NX)/gY$ (d) $g/(I/Y)$
18. A closed economy has an ICOR of 5.0 and a domestic savings ratio of 15%. If current GDP is Rs.1000 Bn, what could be the GDP next year?
 (a) Rs.5150 Bn (b) Rs.850 Bn (c) Rs.3971 Bn (d) Rs.1030 Bn
19. If you wish to have a balance of Rs.8,000 in your savings account in 4 years from now, how much should you deposit now, if the interest rate applicable is 8% per annum?
 (a) Rs. 5881 (b) Rs. 10,884 (c) Rs. 3560 (d) Rs. 1731
20. ABC Ltd. is involved in sale of wall arts. Its cost per order is Rs.400 and its stock-holding cost per unit is Rs.10 per annum. The company has a demand for 20,000 units per year. What would be the economic order quantity?
 (a) 1667 units (b) 900 units (c) 1,265 units (d) 3000 units

*** END OF PART – I ***

PART II

Allocated Marks: 70

[Attempt the compulsory Questions No.1 and TWO (2) other questions from this part]

Question No. 1 [30 Marks] – This Question is Compulsory

ABC Traders is a sole proprietor and the following balances as at 31st March have been extracted from the books:

Description	Dr. (000')	Cr. (000')
Sales		5450
Purchases	4250	
Closing Stock as at 31 st March 2018	1750	
Trade Receivables	1000	
Trade Payables		1900
Fixed Deposit (6 Months)	750	
Interest Income		50
Bank overdraft interest	50	
Electricity	600	
Rent	300	
Cash in hand	500	
Bank Overdraft		1100
Salary	900	
Sales Commission	250	

The following additional information is also provided:

1. The company has fixed assets (at its purchase cost) as reflected below:
Land : Rs 2 Mn Buildings: Rs 1.5 Mn
Laptops: Rs 0.6 Mn Office Equipments: 0.4 Mn
2. The business policy is to depreciate the Property, Laptops and Equipment on the straight-line method at cost using the following rates:
Buildings : 05% Laptops : 20% and Office equipment : 10 %
3. Following credit balances appeared in Accumulated Depreciation accounts in the books as at 1st April 2017 :
Buildings: Rs 500,000/-, Laptops: Rs 240,000/-, and Office Equipment: Rs 160,000/-
4. Value of stocks was Rs 750,000 as at 1st April 2017.
5. The Capital Account reflected a credit balance of Rs 4,450,000 as at 1st April 2017.
6. Building rent of Rs.300,000/- indicated in the above table has been paid for the period from 01st January 2018 to 31st December 2018.
7. Following transactions have not yet been recorded in the Company accounts :
 - Rs. 100,000 should be received from person X
 - The sales commission payable for the month of March 2018 was Rs.50,000/-

You are required to do the following:

- (i) Prepare the Statement of Income (Profit & Loss Account) for the year ended 31st March 2018. [12 marks]
- (ii) Prepare the Statement of Financial Position (Balance Sheet) as at 31st March 2018. [12 Marks]
- (iii) Briefly comment on any aspects which you may consider important to highlight, using the reflections of these accounts, with regard to the financial situation and performance of ABC Traders. [6 Marks]

Question No. 2 [20 Marks]

- (a) A developing open economy, having heavy foreign debts, has recorded annual average GDP growth of 4% during the past decade. According to the monetary authority, domestic savings as a ratio of GDP is 18%, and the net import ratio is 6% of GDP. Estimate the ICOR of this economy? [6 Marks]
- (b) National Planning and Development Authority of the above economy has proposed to achieve an annual economic growth of 8% from next year onwards. Comment on the possibility of achieving and sustaining this targeted growth rate of 8%. [8 Marks]
- (c) What growth scenario you think is more pragmatic? Justify your answer, while discussing possible strategies the Government may adopt to achieve it. [6 Marks]

Question No. 3 [20 Marks]

A closed economy is having two sectors, Agriculture and Industry. One unit of agricultural output requires 0.2 units of agricultural inputs and 0.4 units of industrial inputs. Industry sector's self-consumption ratio is 0.2, while there would be a 0.6 units requirement of agricultural inputs to produce a unit of industrial output. Final demands for agricultural and industrial products would be 8 and 10 units, respectively.

- Construct the supply and use equations, and the Input-Output matrix equation. [5 Marks]
- Solve the matrix equation and estimate the total production requirements in the agriculture and industry sectors such that those outputs would meet the final demand as well as the internal demands within the production sectors. [12 Marks]
- What would happen, if the final demand for food increases? [3 Marks]

Question No. 4 [20 Marks]

XYZ Ltd uses the Standard Costing system. In December 2017, the budgeted production/sale was 9600 units and the budgeted fixed overhead for the month is Rs. 172,800.

Standard costs are as follows:

Direct Materials (2kg at Rs10/- each)	Rs. 20 Per unit
Direct Labour (3 hours at Rs.24/- per hour)	Rs. 72 Per unit
Variable overhead (Rs.8 per labour hour)	Rs. 24 Per unit

Actual information for the month of December 2017:

Direct Material Purchase	Rs.196,000 (20,000kg)
Actual production	9500 units
Labour cost	Rs. 682,000 (31,000 hours)
Variable Overhead cost	Rs. 279,000

You are required to answer the following questions:

- Calculate the direct material price, usage and total variances. [6 Marks]
- Estimate the Direct labour rate variance, labour efficiency variance and total variance. [6 Marks]
- What would be the Variable overhead expenditure variance, Variable overhead efficiency variance and Variable overhead total variance? [6 Marks]
- "Favourable variance in direct material usage does not necessarily indicate efficiency in the production section of the business entity" Comment. [2 Marks]

Question No. 5 [20 Marks]

- (a) Define the concept of Economic Order Quantity (EOQ), and briefly explain its significance. [4 Marks]
- (b) ABC Company has a demand for 34,300 dozens of garments evenly throughout the year. The total cost to handle a purchase order is Rs.10. What would be the Company's stock holding cost, if the number of orders the Company has to place in order to minimise the stock management cost of Company is 49 orders per year? [8 Marks]
- (c) Explain the Company's Re-order level (L) as a function of Stock Holding Cost per tonne (H), Ordering Cost per (S) and the lead time in days (t), if it is to place monthly order for the economic order quantity while avoiding stock out situations. [8 Marks]

Question No. 6 [20 Marks]

Write brief notes on any FOUR (4) of the following statements [each carries 5 Marks]:

- (a) Net Present Value (NPV) and internal rate of return (IRR) Criteria could lead to conflicting ranks pertaining to viability of project alternatives
- (b) Budgeting helps to control various activities of an organization and maximize profits.
- (c) The "Going Concern" is a fundamental and useful principle in financial accounting, if not for which many accounting practice today would become baseless.
- (d) Variance Analysis is a very important tool in controlling both actual results and planning procedures within a changing environment
- (e) National Planning is essentially concerned of overall macroeconomic relationships.
- (f) ROCE is a better indicator than Net Profit Margin in reflecting profitability of a business.

***** END OF EXAMINATION PAPER *****

TABLE 1: PRESENT VALUES

PRESENT VALUE OF Rs 1 RECEIVED AT THE END OF n PERIODS

$$PV(r,n) = 1 / (1+r)^n$$

Period	1%	3%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	22%	24%	26%	28%	30%	32%	34%	35%	36%	38%	40%
1	0.990	0.971	0.952	0.943	0.935	0.926	0.917	0.909	0.893	0.877	0.870	0.862	0.847	0.833	0.820	0.806	0.794	0.781	0.769	0.758	0.746	0.741	0.735	0.725	0.714
2	0.980	0.943	0.907	0.890	0.873	0.857	0.842	0.826	0.797	0.769	0.756	0.743	0.718	0.694	0.672	0.650	0.630	0.610	0.592	0.574	0.557	0.549	0.541	0.525	0.510
3	0.971	0.915	0.864	0.840	0.816	0.794	0.772	0.751	0.712	0.675	0.658	0.641	0.609	0.579	0.551	0.524	0.500	0.477	0.455	0.435	0.416	0.406	0.398	0.381	0.364
4	0.961	0.888	0.823	0.792	0.763	0.735	0.708	0.683	0.636	0.592	0.572	0.552	0.516	0.482	0.451	0.423	0.397	0.373	0.350	0.329	0.310	0.301	0.292	0.276	0.260
5	0.951	0.863	0.784	0.747	0.713	0.681	0.650	0.621	0.567	0.519	0.497	0.476	0.437	0.402	0.370	0.341	0.315	0.291	0.269	0.250	0.231	0.223	0.215	0.200	0.186
6	0.942	0.837	0.746	0.705	0.666	0.630	0.596	0.564	0.507	0.456	0.432	0.410	0.370	0.335	0.303	0.275	0.250	0.227	0.207	0.189	0.173	0.165	0.158	0.145	0.133
7	0.933	0.813	0.711	0.665	0.623	0.583	0.547	0.513	0.452	0.400	0.376	0.354	0.314	0.279	0.249	0.222	0.198	0.178	0.159	0.143	0.129	0.122	0.116	0.105	0.095
8	0.923	0.789	0.677	0.627	0.582	0.540	0.502	0.467	0.404	0.351	0.327	0.305	0.266	0.233	0.204	0.179	0.157	0.139	0.123	0.108	0.096	0.091	0.085	0.076	0.068
9	0.914	0.766	0.645	0.592	0.544	0.500	0.460	0.424	0.361	0.308	0.284	0.263	0.225	0.194	0.167	0.144	0.125	0.108	0.094	0.082	0.072	0.067	0.063	0.055	0.048
10	0.905	0.744	0.614	0.558	0.508	0.463	0.422	0.386	0.322	0.270	0.247	0.227	0.191	0.162	0.137	0.116	0.099	0.085	0.073	0.062	0.054	0.050	0.046	0.040	0.035
11	0.896	0.722	0.585	0.527	0.475	0.429	0.388	0.350	0.287	0.237	0.215	0.195	0.162	0.135	0.112	0.094	0.079	0.066	0.056	0.047	0.040	0.037	0.034	0.029	0.025
12	0.887	0.701	0.557	0.497	0.444	0.397	0.356	0.319	0.257	0.208	0.187	0.168	0.137	0.112	0.092	0.076	0.062	0.052	0.043	0.036	0.030	0.027	0.025	0.021	0.018
13	0.879	0.681	0.530	0.469	0.415	0.368	0.326	0.290	0.229	0.182	0.163	0.145	0.116	0.093	0.075	0.061	0.050	0.040	0.033	0.027	0.022	0.020	0.018	0.015	0.013
14	0.870	0.661	0.505	0.442	0.388	0.340	0.299	0.263	0.205	0.160	0.141	0.125	0.099	0.078	0.062	0.049	0.039	0.032	0.025	0.021	0.017	0.015	0.014	0.011	0.009
15	0.861	0.642	0.481	0.417	0.362	0.315	0.275	0.239	0.183	0.140	0.123	0.108	0.084	0.065	0.051	0.040	0.031	0.025	0.020	0.016	0.012	0.011	0.010	0.008	0.006
16	0.853	0.623	0.458	0.394	0.339	0.292	0.252	0.218	0.163	0.123	0.107	0.093	0.071	0.054	0.042	0.032	0.025	0.019	0.015	0.012	0.009	0.008	0.007	0.006	0.005
17	0.844	0.605	0.436	0.371	0.317	0.270	0.231	0.198	0.146	0.108	0.093	0.080	0.060	0.045	0.034	0.026	0.020	0.015	0.012	0.009	0.007	0.006	0.005	0.004	0.003
18	0.836	0.587	0.416	0.350	0.296	0.250	0.212	0.180	0.130	0.095	0.081	0.069	0.051	0.038	0.028	0.021	0.016	0.012	0.009	0.007	0.005	0.005	0.004	0.003	0.002
19	0.828	0.570	0.396	0.331	0.277	0.232	0.194	0.164	0.116	0.083	0.070	0.060	0.043	0.031	0.023	0.017	0.012	0.009	0.007	0.005	0.004	0.003	0.003	0.002	0.002
20	0.820	0.554	0.377	0.312	0.258	0.215	0.178	0.149	0.104	0.073	0.061	0.051	0.037	0.026	0.019	0.014	0.010	0.007	0.005	0.004	0.003	0.002	0.002	0.002	0.001
25	0.780	0.478	0.295	0.233	0.184	0.146	0.116	0.092	0.059	0.038	0.030	0.024	0.016	0.010	0.007	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.000
30	0.742	0.412	0.231	0.174	0.131	0.099	0.075	0.057	0.033	0.020	0.015	0.012	0.007	0.004	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.706	0.355	0.181	0.130	0.094	0.068	0.049	0.036	0.019	0.010	0.008	0.006	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.672	0.307	0.142	0.097	0.067	0.046	0.032	0.022	0.011	0.005	0.004	0.003	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.639	0.264	0.111	0.073	0.048	0.031	0.021	0.014	0.006	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.608	0.228	0.087	0.054	0.034	0.021	0.013	0.009	0.003	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TABLE 2 : ANNUITIES

PRESENT VALUE OF AN ANNUITY OF Rs 1 RECEIVED PER PERIOD FOR n PERIODS

$$PVA(r,n) = \sum 1 / (1+r)^t = (1 - (1/(1+r)^n)) / r$$

Period	1%	3%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	22%	24%	26%	28%	30%	32%	34%	35%	36%	38%	40%
1	0.990	0.971	0.952	0.943	0.935	0.926	0.917	0.909	0.893	0.877	0.870	0.862	0.847	0.833	0.820	0.806	0.794	0.781	0.769	0.758	0.746	0.741	0.735	0.725	0.714
2	1.970	1.913	1.859	1.833	1.808	1.783	1.759	1.736	1.690	1.647	1.626	1.605	1.566	1.528	1.492	1.457	1.424	1.392	1.361	1.331	1.303	1.289	1.276	1.250	1.224
3	2.941	2.829	2.723	2.673	2.624	2.577	2.531	2.487	2.402	2.322	2.283	2.246	2.174	2.106	2.042	1.981	1.923	1.868	1.816	1.766	1.719	1.696	1.673	1.630	1.589
4	3.902	3.717	3.546	3.466	3.387	3.312	3.240	3.170	3.037	2.914	2.855	2.798	2.690	2.589	2.494	2.404	2.320	2.241	2.166	2.096	2.029	1.997	1.966	1.906	1.849
5	4.853	4.580	4.329	4.212	4.100	3.993	3.890	3.791	3.605	3.433	3.352	3.274	3.127	2.991	2.864	2.745	2.635	2.532	2.436	2.345	2.260	2.220	2.181	2.106	2.035
6	5.795	5.417	5.076	4.917	4.767	4.623	4.486	4.355	4.111	3.889	3.784	3.685	3.498	3.326	3.167	3.020	2.885	2.759	2.643	2.534	2.433	2.385	2.339	2.251	2.168
7	6.728	6.230	5.786	5.582	5.389	5.206	5.033	4.868	4.564	4.288	4.160	4.039	3.812	3.605	3.416	3.242	3.083	2.937	2.802	2.677	2.562	2.508	2.455	2.355	2.263
8	7.652	7.020	6.463	6.210	5.971	5.747	5.535	5.335	4.968	4.639	4.487	4.344	4.078	3.837	3.619	3.421	3.241	3.076	2.925	2.786	2.658	2.598	2.540	2.432	2.331
9	8.566	7.786	7.108	6.802	6.515	6.247	5.995	5.759	5.328	4.946	4.772	4.607	4.303	4.031	3.786	3.566	3.366	3.184	3.019	2.868	2.730	2.665	2.603	2.487	2.379
10	9.471	8.530	7.722	7.360	7.024	6.710	6.418	6.145	5.650	5.216	5.019	4.833	4.494	4.192	3.923	3.682	3.465	3.269	3.092	2.930	2.784	2.715	2.649	2.527	2.414
11	10.368	9.253	8.306	7.887	7.499	7.139	6.805	6.495	5.938	5.453	5.234	5.029	4.656	4.327	4.035	3.776	3.543	3.335	3.147	2.978	2.824	2.752	2.683	2.555	2.438
12	11.255	9.954	8.863	8.384	7.943	7.536	7.161	6.814	6.194	5.660	5.421	5.197	4.793	4.439	4.127	3.851	3.606	3.387	3.190	3.013	2.853	2.779	2.708	2.576	2.456
13	12.134	10.635	9.394	8.853	8.358	7.904	7.487	7.103	6.424	5.842	5.583	5.342	4.910	4.533	4.203	3.912	3.656	3.427	3.223	3.040	2.876	2.799	2.727	2.592	2.469
14	13.004	11.296	9.899	9.295	8.745	8.244	7.786	7.367	6.628	6.002	5.724	5.468	5.008	4.611	4.265	3.962	3.695	3.459	3.249	3.061	2.892	2.814	2.740	2.603	2.478
15	13.865	11.938	10.380	9.712	9.108	8.559	8.061	7.606	6.811	6.142	5.847	5.575	5.092	4.675	4.315	4.001	3.726	3.483	3.268	3.076	2.905	2.825	2.750	2.611	2.484
16	14.718	12.561	10.838	10.106	9.447	8.851	8.313	7.824	6.974	6.265	5.954	5.668	5.162	4.730	4.357	4.033	3.751	3.503	3.283	3.088	2.914	2.834	2.757	2.616	2.489
17	15.562	13.166	11.274	10.477	9.763	9.122	8.544	8.022	7.120	6.373	6.047	5.749	5.222	4.775	4.391	4.059	3.771	3.518	3.295	3.097	2.921	2.840	2.763	2.621	2.492
18	16.398	13.754	11.690	10.828	10.059	9.372	8.756	8.201	7.250	6.467	6.128	5.818	5.273	4.812	4.419	4.080	3.786	3.529	3.304	3.104	2.926	2.844	2.767	2.624	2.494
19	17.226	14.324	12.085	11.158	10.336	9.604	8.950	8.365	7.366	6.550	6.198	5.877	5.316	4.843	4.442	4.097	3.799	3.539	3.311	3.109	2.930	2.848	2.770	2.626	2.496
20	18.046	14.877	12.462	11.470	10.594	9.818	9.129	8.514	7.469	6.623	6.269	5.929	5.353	4.870	4.460	4.110	3.808	3.546	3.316	3.113	2.933	2.850	2.772	2.627	2.497
25	22.023	17.413	14.094	12.783	11.654	10.675	9.823	9.077	7.843	6.873	6.464	6.097	5.467	4.948	4.514	4.147	3.834	3.564	3.329	3.122	2.939	2.856	2.777	2.631	2.499
30	25.808	19.600	15.372	13.765	12.409	11.268	10.274	9.427	8.055	7.003	6.566	6.177	5.517	4.979	4.534	4.160	3.842	3.569	3.332	3.124	2.941	2.857	2.778	2.631	2.500
35	29.409	21.487	16.374	14.498	12.948	11.655	10.567	9.644	8.176	7.070	6.617	6.215	5.539	4.992	4.541	4.164	3.845	3.571	3.333	3.125	2.941	2.857	2.778	2.632	2.500
40	32.835	23.115	17.159	15.046	13.332	11.925	10.757	9.779	8.244	7.105	6.642	6.233	5.548	4.997	4.544	4.166	3.846	3.571	3.333	3.125	2.941	2.857	2.778	2.632	2.500
45	36.095	24.519	17.774	15.456	13.606	12.108	10.881	9.863	8.283	7.123	6.654	6.242	5.552	4.999	4.545	4.166	3.846	3.571	3.333	3.125	2.941	2.857	2.778	2.632	2.500
50	39.196	25.730	18.256	15.762	13.801	12.233	10.962	9.915	8.304	7.133	6.661	6.246	5.554	4.999	4.545	4.167	3.846	3.571	3.333	3.125	2.941	2.857	2.778	2.632	2.500