

CPA PART III SECTION 5

ADVANCED FINANCIAL MANAGEMENT

THURSDAY: 29 November 2018.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

- (a) In the context of corporate restructuring and reorganisation, differentiate between the following terms:
 - (i) "Leveraged buy-out" and "management buy-out"

(2 marks)

(ii) "Divestiture" and "spin-off"

(2 marks)

(iii) "Unbundling" and "sell-off".

(2 marks)

- (b) Mavueni Limited is considering undertaking a financial reconstruction during which it would repurchase its outstanding ordinary shares using debt. This will raise its debt to equity ratio to 1.20. The following information was available for the company:
 - 1. Existing debt to equity ratio is 0.80.
 - The asset beta (ungeared beta of equity) is 0.30.
 - The risk-free rate of return is 8%.
 - 4. The return of market portfolio is 14%.
 - 5. The company adopts 50% payout ratio as its dividend policy.
 - 6. The company expects to generate earnings per share (EPS) of Sh.6.
 - Debt finance is considered to be risk-free.
 - 8. The corporate tax rate is 30%.

Required:

Evaluate the impact of financial reconstruction on Mavueni Ltd.'s weighted average cost of capital (WACC).

(8 marks)

(c) The following data relate to the probability distributions and returns of securities A and B:

Probability (Pi)	Security returns (%)					
• • •	Security A	Security B				
0.10	-5	10				
0.25	10	15				
0.40	15	10				
0.25	20	0				

Required:

The proportion of each security to be invested in the portfolio in order to attain a zero portfolio risk.

(Total: 20 marks)

(6 marks)

QUESTION TWO

- (a) Discuss three practical challenges that could be encountered when making capital investment decisions. (6 marks)
- (b) Galanema Ltd. is considering to introduce new cheap plastic rulers into the market. This will involve investing in a new plant at a cost of Sh.280 million.

The plant is expected to have a useful life of 5 years at the end of which salvage value will be nil. The firm's policy is to depreciate all of its fixed assets on a straight line basis.

Due to market uncertainties, the unit selling price, unit variable cost and annual sales volume of the new plastic rulers have been estimated stochastically as follows:

Unit s	elling price	Unit va	ariable cost	Annual sales	volume
Value (Sh.)	Probability	Value (Sh.)	Probability	Value (Sh."million")	Probability
35	0.30	15	0.20	4	0.10
30	0.40	10	0.50	7	0.60
50	0.30	25	0.30	9	0.30

Additional information:

- 1. The firm expects to incur fixed operating costs excluding depreciation of Sh.30 million in each year.
- 2. The company's cost of capital is 17%.
- The corporate tax rate is 30%.

Required:

(i) The expected net present value (NPV) of the new product.

(6 marks)

(ii) Simulate the net present values (NPV) using the following random numbers:

(802560 638351 057530 150353 603785 553525 245239 857015) and compute the expected net present value of the project.

160252 (8 marks)

(Total: 20 marks)

369948

QUESTION THREE

(a) The following are summarised financial statements of Dzikunze Limited as at 31 December 2015 to 31 December 2017:

Income statement for the year ended 31 December:

	2015	2016	2017
	Sh."000"	Sh."000"	Sh."000"
Turnover	90,000	100,000	120,000
Operating profit	15,000	20,000	25,000
Interest	(2,000)	(4,000)	(5,000)
Profit before tax	13,000	16,000	20,000
Taxation (30%)	(3,900)	(4,800)	(6,000)
Profit after tax	9,100	11,200	14,000
Proposed dividends	(2,100)	(2,500)	(3,000)
Retained profit	_7,000	8,700	11,000

Statement of financial position as at 31 December 2017:

	Sh."000"
Non-current assets	60,000
Current assets	40,000
Financed by:	100,000
Ordinary share capital (Sh.20 par value)	30,000
Reserves	20,000
10% long term debentures (Sh.100 par value)	30,000
Short-term debts	_20,000
	100,000

Additional information:

- Stock market analysts expect post-tax earnings and dividends to grow at the rate of 25% per annum for the next three years. Thereafter, the annual growth rate will revert to the company's growth rate and remain constant in each year to perpetuity.
- Dzikunze Ltd.'s overall beta is 0.80 and the beta of equity is 0.75.
- 3. The risk-free rate of return is 12%.
- The market rate of return is 28%.
- The current market price of ordinary share is Sh.67.70 cum-dividend.
- The debenture price is Sh.89.50 ex-interest.
- The corporation tax rate is 30%.

Required:

Evaluate whether Dzikunze Ltd.'s share is currently overvalued or undervalued by the market forces.

(8 marks)

(ii) Advise a prospective investor whether to buy the ordinary shares of Dzikunze Limited.

(2 marks)

(b) Chigiri Investment Limited is a company based in Kenya. The company exported goods on credit to a firm in the United States of America (USA). The company expects to receive US\$ 800,000 in one year's time.

The current spot exchange rate is 1US\$ = KES.60.

However, Chigiri Investment Limited created a probability distribution for the forward spot rate in one year as follows:

Probability	Forward spot rate
# A	KES/1 US \$
0.20	61
0.50	63
0.30	67

Additional information:

- One year put options on the US\$ are available with an exercise price of KES.63 and a premium of KES.
 4 per US\$.
- 2. One year call options are available on the US\$ with an exercise price of KES.60 and a premium of KES 3 per US\$.
- 3. The future spot rate is estimated in a year's time to be KES. 62 per 1US\$.
- 4. The following are the money market annual rates:

	Kenya	USA
	Annual rates (%)	Annual rates (%)
Borrowing	18	12
Deposit	9	6

Required:

- (i) Determine whether a forward market hedge, money market hedge or currency option hedge would be the most appropriate hedging strategy for the company. (9 marks)
- (ii) Advise a prospective investor, the most appropriate hedging strategy if no hedging takes place. (1 mark)

 (Total: 20 marks)

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QUESTION FOUR

(a) A financial analyst is interested in using the Black-Scholes Model (BSM) to value call options on the stock.

The following information is available:

- 1. The price of the stock is Sh.35.
- 2. The strike price is Sh.30.
- 3. The option matures in 9 months.
- 4. The volatility of returns of the stock is 0.30.
- 5. The risk-free rate is 10%.

Required:

The value of a call option using the Black-Scholes Model.

(4 marks)

(b) The following information relate to two securities, namely A and B and the market portfolio for the year 2018:

Probability	For	Forecasted rate of returns (%)								
	Security A	Security B	Market portfolio							
0.20	15	12	16							
0.50	10	15	12							
0.30	8	10	7							

The treasury bills yield rate is expected to be 8%.

Required:

(i) The Beta coefficient of securities A and B. (4 marks)

(ii) Using capital asset pricing model (CAPM), determine the minimum required rate of returns for securities A and B. (2 marks)

(c) Chilulu Industries Limited is considering acquisition of Roka Corporation Ltd. in a share for share exchange. The financial data for the two companies are given below:

	Chilulu Ltd.	Roka Ltd.
	(Sh.)	(Sh.)
Sales (millions)	500	100
Net earnings (millions)	30	12
Ordinary shares outstanding (millions)	6	2
Ordinary share market price, per share (MPS)	50	40
Dividend per share (DPS)	2	1.50

Additional information:

- Chilulu Limited is not willing to incur an initial dilution in its earnings per share (EPS). 1.
- 2. Chilulu Limited will have to offer a minimum of 25% of Roka Ltd.'s current share market price.

Required:

(i) The relevant offer price range.

(4 marks)

- (ii) If Roka Ltd.'s shareholders accept an offer by Chilulu Ltd. of Sh.40 per share in a share for share exchange. Determine the post-merger earnings per share (EPS).
- (iii) Using the results obtained in (c) (ii) above and assuming that Chilulu Ltd.'s price-earning (P/E) ratio will remain unchanged after the merger, determine the post acquisition market price of a share of Chilulu

(Total: 20 marks)

QUESTION FIVE

- Analyse three assumptions of the income approach of valuing real estates business in your country. (6 marks)
- (b) A large manufacturing firm based in Kenya is tendering for an order in South Africa. The tender conditions state that payment will be made in South African Rands (ZAR) in 24 months' time from now. The company is unsure of what price to tender. The company's marginal cost of production at the time of tendering is estimated to be Kenya shillings (KES) 2,000,000 and a 20% mark-up is applicable for the company.

Exchange rates: KES/1 ZAR

Spot rate: 8.025 - 8.125

Additional information:

Shape. 1. No forward rate exists for 24 months' time.

2. Market information between Kenya and South Africa:

	South Africa	Kenya
Annual inflation rates	6%	8%
Annual interest rates available to the manufacturing firm	:	
Borrowing rate	12%	18%
Investment rate	8%	6%

Required:

Using the purchasing power parity model, recommend the tender price to be used.

(7 marks)

(c) Embakasi Investment Ltd. contemplates to determine its optimal capital structure which currently consists of only debt and common equity.

The company does not use preference shares in its capital structure and does not plan to do so in the near future.

In order to estimate how much its debt would cost at different debt levels, the company's financial controller has consulted with investment banks and the following information was obtained:

Debt to equity ratio	Bond rating	Before tax cost of debt (%)
0.00	A	0
0.25	BBB	8.5
0.60	BB	10
1.70	C	14
2.50	D	16

Additional information:

- The company uses the capital asset pricing model (CAPM) to estimate the cost of capital.
- The risk-free rate of return is 5%.
- 3. The market risk premium is 8%.
- 4. The corporate tax rate is 30%.
- 5. The company uses the Hamada model to determine its levered equity Beta.
- 6. The asset Beta (unlevered equity Beta) is 1.20.

Required:

(i) The optimal capital structure of Embakasi Investment Ltd. (6 marks)

(ii) The optimal weighted average cost of capital (WACC) of Embakasi Investment Ltd. (1 mark)

(Total: 20 marks)

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Present Value of 1 Received at the End of n Periods:

PVIF	= 1/(1+r)"	= (1+r)·"
	11		

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	9259	.9174	.9091	.8929	8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	735
2	.9803	.9612	.9426	.9246	.9070	.8900	8734	.8573	.8417	.8264	.7972	7695	.7561	.7432	.7182	.6944	.6504	.6104	5739	.540
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	6750	.6575	.6407	.6086	.5787	.5245	.4768	4348	397
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	292
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	5194	4972	4761	.4371	.4019	.3411	2910	2495	.214
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	1890	.158
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	:1776	1432	.116
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.085
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.062
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.046
, 11	8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.034
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	3186	.2567	2076	.1869	1685	.1372	.1122	.0757	.0517	.0357	.025
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.018
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.013
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	3152	.2745	.2394	.1827	1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	009
16	8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	2176	.1631	1229	1069	.0930	.0708	.0541	.0320	.0193	.0118	007
17	8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	005
18	.8360	.7002	.5574	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	8080.	.0691	.0508	.0376	.0208	.0118	.0068	.003
19	8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.002
20	8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	1784	1486	1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.002
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	1460	.1160	.0923	.0588	0378	.0304	.0245	0160	.0105	.0046	.0021	.0010	000
30	.7419	.5521	.4120	.3083	.2314	.1741	1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.000
40	.6717	.4529	3066	.2083	.1420	.0972	.0668	0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001	*	4.1		
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	0004	.0002	.0001			*			200

The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

$$PVIF_{r1} = \sum_{r=1}^{n} \frac{1}{(1+r)^r} = \frac{1-\frac{1}{(1+r)^n}}{r}$$

																7.0			
umcer st													1						
ayments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8696	0.8621	0.8475	0.8333	0.8065	0.7813	0.757
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1,6901	1.6467	1.6257	1.6052	1.5656	1.5278	1.4568	1.3916	1.33
3	2.9410	2.8839	2,8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.3216	2.2832	2.2459	2.1743	2.1065	1.9813	1.8684	1.76
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.9137	2.8550	2.7982	2.6901	2.5887	2.4043	2.2410	2.09
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.4331	3.3522	3.2743	3.1272		2.7454	2.5320	2.34
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4,7665	4.6229	4.4859	4.3553	4.1114	3.8887	3.7845	3.6847	3.4976	3.3255	3.0205	2.7594	2 53-
7	6.7282	6.4720	6,2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.5638	4.2883	4.1604	4.0386	3.8115	3.6046	3.2423	2.9370	2.67
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.6389	4.4873	4.3436	4.0776	3.8372	3.4212	3.0758	2.78
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.9464	4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.86
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	5.2161	5.0183	4.8332	4.4941	4.1925	3.6819	3.2689	2.93
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6,4951	5.9377	5.4527	5.2337	5.0286	4.6560	4.3271	3.7757	3.3351	2.97
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.01
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3,9124	3.4272	3.04
14	13,0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7,3667	6.6282	6.0021	5.7245	5,4675	5.0081	4.6106	3.9616	3.4587	3.06
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.8474	5.5755	5.0916	4,6755	4.0013	3.4834	3.07
					10.8378				8.3126	7.8237	6.9740	6.2651	5.9542	5.6685	5,1624	4.7296	4.0333	3.5026	3.08
17	15.5623	14.2919	13,1661	12.1657	11.2741	10,4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	6.0472	5.7487	5.2223	4.7746	4.0591	3.5177	3 09
					11.6896				8.7556	8.2014	7.2497	6.4674	6.1280	5,8178	5.2732	4.8122	4.0799	3.5294	3 10
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.3658	6.5504	6.1982	5.8775	5.3162	4.8435	4.0967	3.5386	3.10
20	18.0456	16.3514	14,8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.6231	6.2593	5.9288	5.3527	4.8696	4.1103	3.5458	3 11
					14.0939						7.8431	6.8729	6.4641	6,0971	5.4669	4.9476	4.1474	3.5640	3 12
					15.3725						0.0552	7.0027	6.5660	6.1772	5.5168	4 9789	4.1601	3,5693	3 12
					17.1591						8.2438	7.1050	6.6418	6.2335	5.5482	4.9966	4.1659	3.5712	3 12
50	39.1961	31.4236	25.7298	21,4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	8.3045	7.1327	6.6605	6.2463	3.5541	4.9395	4.1666	3.5714	3 12
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6 2402	5 5553	4.9999	4 1667	3.5714	

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	0.7400	0.7004
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7123		0.7190	0.7224
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7422	0.7454	0.7486 0.7794	0.7517	0.7549
0.8	0.7881	0.7910	0.7939	0.7967	0.7704	0.8023	0.8051		0.7823	0.7852
0.9	0.8159	0.8186	0.8212	0.8238	0.7993			0.8078	0.8106	0.8133
0.5	0.0133	0.0100	0.0212	0.0230	0.0204	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
4.5	0.0000	0.0045			1					
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	0.0010	0.0047
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9812	0.9817
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9854 0.9887	0.9857
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911		0.9890
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9913	0.9916
		0.0020	0.0022	0.5525	0.3321	0.3323	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	0.0000	0.0000	0.0000	0.0000
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9989	0.9989	0.9989	0.9990	0.9990
3.2	0.9993	0.9993	0.9994	0.9994	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993 -
3.3	0.9995	0.9995	0.9995	0.9994	0.9994		0.9994	0.9995	0.9995	0.9995
3.4	0.9997	0.9997	0.9997	0.9997	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
w	0.0001	0.0001	0.0001	0.5557	0.5557	0.9997	0.9997	0.9997	0.9997	0.9998