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UNIVERSITY OF BRADFORD

BUSINESS ACCOUNTING - Accelerated

MAN4055M

Friday 2nd May 2014 **09:15 – 10:45 hours**
Plus 10 minutes reading time

Main

This is a **CLOSED BOOK** examination

Answer **ALL multiple choice questions** in Section A on the **ANSWER GRID** provided
(Answersheet and questions to be handed in with the answerbook)
All multiple choice questions carry equal marks

Answer any **ONE question only** from Section B
All questions in Section B carry equal weighting

Discount tables are provided

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Answer ALL questions. All questions carry equal marks.

Question 1
The historical cost accounting rules specify that current assets should be stated at:

A Lower of purchase price or production cost and net realisable value
B Directors' valuation or current market value
C Lower of purchase price and production cost
D Historical cost as adjusted for revaluations

Question 2
Which of the following statements is **false**?

A Liquidity is an assessment of how easily we can meet our short-term obligations
B We can measure liquidity by seeing how much cash has been received or spent in a period
C Not all our current assets may be liquid
D Liquidity depends on how much of our assets can be quickly turned into cash

Question 3
Where sales are £174,000, fixed costs £42,000, and the profit £16,000, the variable cost and the contribution should be:

	Variable Cost	***Contribution***
A	116,000	58,000
B	58,000	116,000
C	158,000	132,000
D	132,000	158,000

Question 4
Reporting significant adverse variances to management is an example of:

A fixed budgeting
B flexible budgeting
C management in action
D management by exception

Question 5
Management have set a profit target of £80,000 for the period. The company has a single product which sells at £200 each with a variable cost of £150 for outputs up to 3,000 units. Any additional output in excess of 3,000 units has to be sold at £175 per unit. Fixed costs for the period are £90,000. The total number of units which have to be sold to achieve the profit target is:

	Units
A	1,600
B	1,800
C	3,800
D	4,200

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Question 6
Using the same data as in the preceding question 5, the number of units which have to be sold in order to break even is:

	Units
A	1,600
B	1,800
C	3,800
D	4,200

Question 7
Which of the following is **not** a relevant cost or revenue for capital investment appraisal purposes?

A the expected residual or salvage value of fixed assets
B depreciation on new fixed assets
C the cost of any new fixed assets
D expected future repair and renewal costs of any new fixed assets

Question 8
Setting up an allowance or provision for future bad debts relating to sales already made complies with:

A The realisation concept
B The prudence concept
C The going concern concept
D The consistency concept

Question 9
If a company's share price falls, what happens to its P/E ratio and dividend yield?

	P/E ratio	***Dividend yield***
A	Increase	Increase
B	Increase	Decrease
C	Decrease	Increase
D	Decrease	Decrease

Question 10
A company buys goods for £50 and sells them for £75. Its mark-up is:

A	25.0%
B	33.3%
C	50.0%
D	125.0%

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Question 11
Company Y buys goods for resale. When stock at the start of a period is £510, stock at the end is £640, sales are £4,610, and purchases are £3,060, the gross profit for the period is:

A £1,680
B £1,550
C £1,420
D £1,040

Question 12
Company X has a gross profit margin of 40%, its return on sales (operating profit before interest and tax) is 8% and its asset turnover (sales/total assets less current liabilities) is 4. A new investment of £100,000, financed from the issue of new share capital, will deliver sales of £200,000 per annum and operating profits of £20,000. What will be the effect of the new investment?

	Return on sales	***Asset turnover***
A	Decrease	Increase
B	Decrease	Decrease
C	Increase	Increase
D	Increase	Decrease

Question 13
In the preceding Question 12 before undertaking the new investment, the return on capital employed (ROCE) of Company X will be:

A 2%
B 10%
C 32%
D 48%

Question 14
Beta Industries has an operating profit which exceeds its net cash inflow from operating activities. Which of the following changes over the year, if it had occurred, might have contributed to this difference?

A Creditors increased
B Stock decreased
C Prepayments decreased
D Debtors increased

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Question 15
Delta Associates shows the following in its balance sheet:

Fixed assets	£219,650
Current assets	£124,800
Current liabilities	£64,290
Long-term liabilities	£200,000

What are the values calculated for:

	Current ratio	***Working capital***
A	1.94	£60,510
B	0.52	£80,160
C	1.94	£124,800
D	0.52	£280,160

Question 16
The following budgeted production overheads for the forthcoming period have been shared out between production cost centres, as follows:

	Department Y		***Department Z***
	£000		£000
Allocated and apportioned overheads -	560		120
Apportioned service department costs -	80		80
	640		200
Budgeted machine hours	80,000	Budgeted direct labour hours	20,000

The overhead absorption rates would be:

	Department Y ***Per machine hour***	***Department Z*** ***Per direct labour hour***
	£	£
A	7	6
B	8	10
C	7	10
D	8	6

Question 17
The present value of £1 in 5 years time is .621 at a discount rate of 10%.
The present value of an annuity of £1 for 5 years at a discount rate of 10% is 3.791.

A company wishes to know what the present value of buying some equipment would be, if it could be bought by paying a deposit of £10,000 now, plus five instalments of £20,000 for each of the next 5 years, plus a final amount of £30,000 at the end of year 5.

The present value of buying the equipment in this way using 10% as the discount rate would be:

	£
A	104,450
B	94,450
C	75,820
D	18,630

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Question 18
A budget which is designed to change with the 'level of activity' (level of output), is called a:

A fixed budget
B master budget
C short-term budget
D flexible budget

Question 19
Company A undertakes a rights issue of shares. Cash flow from operating activities in the cash flow statement will show:

A Increase equal to the new shares issued
B Decrease equal to the new shares issued
C Decrease equal to the dividend on shares including those newly issued
D No effect

Question 20
The amount often described as net working capital is:

A Current assets
B Total assets less current liabilities
C Current assets less current liabilities
D Total assets less long-term investments

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SECTION B – this section carries a 60% weighting. Answer ONE question only

Question 1

Promotrend Ltd retails a product range which can conveniently be divided into three distinct lines S, P and D. Based on sales forecasts provided by the marketing department and costs prepared by various other departments, the following budgeted income statement has been prepared for the coming financial year:

	Variable £000	Fixed £000	Total £000
Sales gross			6,202
Discounts			202
Sales net			6,000
Costs			
Goods for resale	3156		3156
Admin expenses	420	492	912
Marketing expenses	504	828	1332
Total expenses	4080	1320	5400
Net Profit			600

However, the above provides only a summary of the performance and no detail about subsets of the organisation. An analysis of revenue and costs by product line reveals the following information:

Product line	Sales - net	Fixed costs		Variable costs
		Specific	Other	
	£000	£000	£000	£000
S	2100	155	165	1160
P	2400	234	316	1900
D	1500	111	339	1020
	6000	500	820	4080

The accounting system provides a full allocation of all fixed costs to product lines but only some are specific to that product line, others are common to all lines.

Required

a) Briefly compare and contrast the information which is prepared for periodic financial accounting with that which is prepared for management accounting.

(20% weighting)

b) Calculate the value of net sales at which each product line would cover
   i) its specific fixed costs
   ii) all costs assigned to it
   Interpret and comment on the results, making reference to which is more significant.
   Answers to (b) may be expressed to the nearest £1000.

(50% weighting)

c) The product life cycle concept suggests that products proceed through different phases of introduction, growth, maturity and decline. Discuss how an appreciation of this concept provides additional insight into the results of the break-even calculations above.

(30% weighting)

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Question 2

Warren is starting up a new trading business on 1 January 20X9. He provides the following information:

	£
Quarterly rent of premises, first payments due in arrears on 25 March 20X9 and 25 June 20X9	1,500
Cash outlay on equipment – payable on 25 January	180,000
Monthly planned purchases of goods for re-sale	
January	78,000
February	72,000
March to June (per month)	60,000

All goods are bought on one month's credit
(January purchases are paid for in February)

Monthly planned sales are:	
January	30,000
February	48,000
March	84,000
April – June (per month)	90,000

Planned gross profit each month is on average 25% of sales. All sales are on two months' credit. Bad debts of 5% of sales are anticipated but otherwise no arrears of payments are expected.

Monthly cash outlay on general expenses is expected to be £2,250. Salaries are expected to be £3,750 per month.

Depreciation of equipment in the first half-year is estimated at £9,000.

Warren will pay £150,000 cash into the business. He plans to withdraw £22,500 from the business in May. Any temporary excess of payments over receipts will be financed with a bank overdraft.

The closing stock as at 30 June 20X9 is budgeted to be £66,000.

Required

a) Prepare a cash flow forecast for the half-year to 30 June 20X9, identifying the maximum overdraft required –if any.

(25% weighting)

b) What recommendations would you make to Warren to improve his cash position during these first six months trading.

(20% weighting)

c) A budgeted income statement for the half-year and a projected balance sheet as at 30 June 20X9.

(30% weighting)

d) Why is the cash forecast and cash flow so important to business survival?

(25% weighting)

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Question 3

Over the past four years, Silicoplas Inc has spent $2 million on developing a new specialised silicon chip. It is now faced with three mutually exclusive choices:

(i) It can manufacture the chip itself in which case the plant will cost $5 million. This will be spent at the end of December 20X3. At the same time, additional working capital of $2.1 million will be required before production commences at the start of 20X4. The company expects to recover this working capital at the end of the project life. Sales and selling prices are expected to be as follows:

Year ending December 31	20X4	20X5	20X6	20X7	20X8
No. sold (000s)	100	100	100	80	80
Sales price ($ per unit)	120	120	120	100	90

Silicoplas usually depreciates plant of this type over five years using a straight line method and assumes a zero scrap value. Variable costs are expected to be $65 per unit and additional fixed costs, including depreciation, $3 million per year.

(ii) Sell the know-how to a major international firm for a single payment of $3.1 million, receivable at the end of December 20X3.

(iii) Sell the know-how for a royalty of $10 per unit. Anticipated sales of chips would be as shown above.

If choices (ii) or (iii) are taken, then the company will not manufacture the chips itself. Silicoplas estimates that its weighted average cost of capital is 12 per cent. You should assume that sales revenue and costs occur at the end of the year in which they arise. Ignore taxation.

Required:

a) Calculate the cash flows relevant to a decision whether or not to manufacture the chips. You can ignore choices (ii) and (iii) for this part of the answer.

(30% weighting)

b) Calculate the net present value of each option.

(40% weighting)

c) What other factors should be taken into account before a decision is made? What would your decision be?

(30% weighting)

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PRESENT VALUE TABLE

Present value of £1 at the end of year *n* at a discount rate *r* $1/(1+r)^n$

***n*: 1 - 25 years** ***r*: 1% - 30%**

Year (*n*) \ Rate(*r*)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061
21	0.811	0.660	0.538	0.439	0.359	0.294	0.242	0.199	0.164	0.135	0.112	0.093	0.077	0.064	0.053
22	0.803	0.647	0.522	0.422	0.342	0.278	0.226	0.184	0.150	0.123	0.101	0.083	0.068	0.056	0.046
23	0.795	0.634	0.507	0.406	0.326	0.262	0.211	0.170	0.138	0.112	0.091	0.074	0.060	0.049	0.040
24	0.788	0.622	0.492	0.390	0.310	0.247	0.197	0.158	0.126	0.102	0.082	0.066	0.053	0.043	0.035
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047	0.038	0.030

Year (*n*) \ Rate(*r*)	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
1	0.862	0.855	0.847	0.840	0.833	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	0.743	0.731	0.718	0.706	0.694	0.683	0.672	0.661	0.650	0.640	0.630	0.620	0.610	0.601	0.592
3	0.641	0.624	0.609	0.593	0.579	0.564	0.551	0.537	0.524	0.512	0.500	0.488	0.477	0.466	0.455
4	0.552	0.534	0.516	0.499	0.482	0.467	0.451	0.437	0.423	0.410	0.397	0.384	0.373	0.361	0.350
5	0.476	0.456	0.437	0.419	0.402	0.386	0.370	0.355	0.341	0.328	0.315	0.303	0.291	0.280	0.269
6	0.410	0.390	0.370	0.352	0.335	0.319	0.303	0.289	0.275	0.262	0.250	0.238	0.227	0.217	0.207
7	0.354	0.333	0.314	0.296	0.279	0.263	0.249	0.235	0.222	0.210	0.198	0.188	0.178	0.168	0.159
8	0.305	0.285	0.266	0.249	0.233	0.218	0.204	0.191	0.179	0.168	0.157	0.148	0.139	0.130	0.123
9	0.263	0.243	0.225	0.209	0.194	0.180	0.167	0.155	0.144	0.134	0.125	0.116	0.108	0.101	0.094
10	0.227	0.208	0.191	0.176	0.162	0.149	0.137	0.126	0.116	0.107	0.099	0.092	0.085	0.078	0.073
11	0.195	0.178	0.162	0.148	0.135	0.123	0.112	0.103	0.094	0.086	0.079	0.072	0.066	0.061	0.056
12	0.168	0.152	0.137	0.124	0.112	0.102	0.092	0.083	0.076	0.069	0.062	0.057	0.052	0.047	0.043
13	0.145	0.130	0.116	0.104	0.093	0.084	0.075	0.068	0.061	0.055	0.050	0.045	0.040	0.037	0.033
14	0.125	0.111	0.099	0.088	0.078	0.069	0.062	0.055	0.049	0.044	0.039	0.035	0.032	0.028	0.025
15	0.108	0.095	0.084	0.074	0.065	0.057	0.051	0.045	0.040	0.035	0.031	0.028	0.025	0.022	0.020
16	0.093	0.081	0.071	0.062	0.054	0.047	0.042	0.036	0.032	0.028	0.025	0.022	0.019	0.017	0.015
17	0.080	0.069	0.060	0.052	0.045	0.039	0.034	0.030	0.026	0.023	0.020	0.017	0.015	0.013	0.012
18	0.069	0.059	0.051	0.044	0.038	0.032	0.028	0.024	0.021	0.018	0.016	0.014	0.012	0.010	0.009
19	0.060	0.051	0.043	0.037	0.031	0.027	0.023	0.020	0.017	0.014	0.012	0.011	0.009	0.008	0.007
20	0.051	0.043	0.037	0.031	0.026	0.022	0.019	0.016	0.014	0.012	0.010	0.008	0.007	0.006	0.005
21	0.044	0.037	0.031	0.026	0.022	0.018	0.015	0.013	0.011	0.009	0.008	0.007	0.006	0.005	0.004
22	0.038	0.032	0.026	0.022	0.018	0.015	0.013	0.011	0.009	0.007	0.006	0.005	0.004	0.004	0.003
23	0.033	0.027	0.022	0.018	0.015	0.012	0.010	0.009	0.007	0.006	0.005	0.004	0.003	0.003	0.002
24	0.028	0.023	0.019	0.015	0.013	0.010	0.008	0.007	0.006	0.005	0.004	0.003	0.003	0.002	0.002
25	0.024	0.020	0.016	0.013	0.010	0.009	0.007	0.006	0.005	0.004	0.003	0.003	0.002	0.002	0.001

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ANNUITY TABLE

Present value of £1 at the end of each year for *n* years at a discount rate *r* $\Sigma^{1-n} 1/(1+r)^n$

***n*: 1 - 25 years** ***r*: 1% - 30%**

	Rate(*r*)														
Year (*n*)	**1%**	**2%**	**3%**	**4%**	**5%**	**6%**	**7%**	**8%**	**9%**	**10%**	**11%**	**12%**	**13%**	**14%**	**15%**
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.292	8.649	8.075	7.562	7.102	6.687	6.312
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.442	8.772	8.176	7.645	7.170	6.743	6.359
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.580	8.883	8.266	7.718	7.230	6.792	6.399
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.707	8.985	8.348	7.784	7.283	6.835	6.434
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843	7.330	6.873	6.464

	Rate(*r*)														
Year (*n*)	**16%**	**17%**	**18%**	**19%**	**20%**	**21%**	**22%**	**23%**	**24%**	**25%**	**26%**	**27%**	**28%**	**29%**	**30%**
1	0.862	0.855	0.847	0.840	0.833	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	1.605	1.585	1.566	1.547	1.528	1.509	1.492	1.474	1.457	1.440	1.424	1.407	1.392	1.376	1.361
3	2.246	2.210	2.174	2.140	2.106	2.074	2.042	2.011	1.981	1.952	1.923	1.896	1.868	1.842	1.816
4	2.798	2.743	2.690	2.639	2.589	2.540	2.494	2.448	2.404	2.362	2.320	2.280	2.241	2.203	2.166
5	3.274	3.199	3.127	3.058	2.991	2.926	2.864	2.803	2.745	2.689	2.635	2.583	2.532	2.483	2.436
6	3.685	3.589	3.498	3.410	3.326	3.245	3.167	3.092	3.020	2.951	2.885	2.821	2.759	2.700	2.643
7	4.039	3.922	3.812	3.706	3.605	3.508	3.416	3.327	3.242	3.161	3.083	3.009	2.937	2.868	2.802
8	4.344	4.207	4.078	3.954	3.837	3.726	3.619	3.518	3.421	3.329	3.241	3.156	3.076	2.999	2.925
9	4.607	4.451	4.303	4.163	4.031	3.905	3.786	3.673	3.566	3.463	3.366	3.273	3.184	3.100	3.019
10	4.833	4.659	4.494	4.339	4.192	4.054	3.923	3.799	3.682	3.571	3.465	3.364	3.269	3.178	3.092
11	5.029	4.836	4.656	4.486	4.327	4.177	4.035	3.902	3.776	3.656	3.543	3.437	3.335	3.239	3.147
12	5.197	4.988	4.793	4.611	4.439	4.278	4.127	3.985	3.851	3.725	3.606	3.493	3.387	3.286	3.190
13	5.342	5.118	4.910	4.715	4.533	4.362	4.203	4.053	3.912	3.780	3.656	3.538	3.427	3.322	3.223
14	5.468	5.229	5.008	4.802	4.611	4.432	4.265	4.108	3.962	3.824	3.695	3.573	3.459	3.351	3.249
15	5.575	5.324	5.092	4.876	4.675	4.489	4.315	4.153	4.001	3.859	3.726	3.601	3.483	3.373	3.268
16	5.668	5.405	5.162	4.938	4.730	4.536	4.357	4.189	4.033	3.887	3.751	3.623	3.503	3.390	3.283
17	5.749	5.475	5.222	4.990	4.775	4.576	4.391	4.219	4.059	3.910	3.771	3.640	3.518	3.403	3.295
18	5.818	5.534	5.273	5.033	4.812	4.608	4.419	4.243	4.080	3.928	3.786	3.654	3.529	3.413	3.304
19	5.877	5.584	5.316	5.070	4.843	4.635	4.442	4.263	4.097	3.942	3.799	3.664	3.539	3.421	3.311
20	5.929	5.628	5.353	5.101	4.870	4.657	4.460	4.279	4.110	3.954	3.808	3.673	3.546	3.427	3.316
21	5.973	5.665	5.384	5.127	4.891	4.675	4.476	4.292	4.121	3.963	3.816	3.679	3.551	3.432	3.320
22	6.011	5.696	5.410	5.149	4.909	4.690	4.488	4.302	4.130	3.970	3.822	3.684	3.556	3.436	3.323
23	6.044	5.723	5.432	5.167	4.925	4.703	4.499	4.311	4.137	3.976	3.827	3.689	3.559	3.438	3.325
24	6.073	5.746	5.451	5.182	4.937	4.713	4.507	4.318	4.143	3.981	3.831	3.692	3.562	3.441	3.327
25	6.097	5.766	5.467	5.195	4.948	4.721	4.514	4.323	4.147	3.985	3.834	3.694	3.564	3.442	3.329

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