UNIVERSITY OF BRADFORD

BUSINESS ACCOUNTING (DISTANCE LEARNING and FULL-TIME)

ZONE 2

MAN4054M/MAN4055M

05 January 2013 **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

Non-programmable calculators are allowed

SECTION A – this section carries a 40% weighting

Answer ALL questions, using the answer grid supplied

All questions carry equal marks, and there is only one correct answer to each question.

There is no negative marking

Multiple Choice Questions

Question 1
Which of the following is not a heading under non-current assets?

A Shares in subsidiary company
B Inventories
C Motor vehicles
D Brands and trade marks

Question 2
Eliminating rent paid in advance from the costs for the year complies with:

A Matching concept
B Prudence concept
C Going-concern concept
D Consistency concept

Question 3
The balance sheet shows us:

A How much the company has spent in cash during the year
B How much the company has earned during the year
C How much the company owns and owes at a point in time
D How much the company can afford to spend in the coming year

Question 4
A machine was acquired five years ago for £100,000. It was expected to last for ten years at which time it would be worth nothing. In the meantime, the price of this machine has increased and it would now cost £150,000 to replace with an identical one. Because the machine has been kept in good condition, the supplier has offered £120,000 to trade it in for an enhanced model. The amount to be shown in the balance sheet would normally be:

	£000
A	50
B	75
C	120
D	150

Question 5
Which of the following accounting equations is valid:

A Assets = Liabilities
B Assets - Liabilities = Profit
C Assets + Liabilities = Shareholders' funds
D Assets - Liabilities = Shareholders' funds

Question 6
How do working capital and the quick ratio change when inventory is purchased?

	Working capital	***Quick ratio***
A	No change	Decrease
B	Decrease	Decrease
C	No change	No change
D	Decrease	No change

Question 7
If the asset turnover ratio is 2 times, the return on sales is 16%, and the gross profit margin is 30% then the return on capital employed (ROCE) will be:

A 8%
B 32%
C 46%
D 60%

Question 8
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 9
Which of the following is a relevant cost or benefit in carrying out capital investment appraisal

A Expected maintenance cost of new assets
B Cost of the feasibility study already completed
C Depreciation of the new assets to be charged in the income statement
D Proportional allocation of existing central head office costs

Question 10
The present value of money received in the future is...

A ...always less than the nominal amount concerned
B ...always greater than the nominal amount concerned
C ...sometimes greater and sometimes less than the nominal amount concerned
D ...the same as the nominal amount concerned

Question 11
The break even point where fixed costs are £120,000, variable costs are £240,000 and sales are £400,000 would be:

	£000
A	48
B	72
C	200
D	300

Question 12
Break even occurs when:

A Sales = Fixed costs
B Contribution = total costs
C Contribution = fixed costs
D Sales = contribution

Question 13
Sales required to produce a profit of 20% on the capital invested

Fixed overhead	£200,000
Profit/volume ratio	40%
Capital invested	£1,000,000

	£000
A	1,000
B	800
C	500
D	400

Question 14
Carcomp Limited produce components for the motor vehicle industry using a batch production system. A batch of 120 units incurred the following expenditure:

30 minutes setting time at	£8 per hour
Materials	£1,500
Labour	£100
Overheads	£18
Complete units produced	116

The cost per unit (to the nearest 1p) amounts to:

A £13.48
B £13.52
C £14.07
D £14.10

Question 15
Which of the following items could <u>not</u> be obtained from a balance sheet?

A Value of assets
B Outstanding liabilities
C Cumulative depreciation
D Revenue

Question 16
An electricity accrual of £400 was ignored completely when preparing a business's income statement. As a result:

A profit was overstated by £400 and current assets overstated by £400
B profit was overstated by £400 and current liabilities understated by £400
C profit was understated by £400
D profit was overstated by £400 and current liabilities overstated by £400

Question 17
A firm buys an asset for £3,000 and depreciates it using the reducing balance method. Which of the following amounts would be the second year's depreciation charge at 10% per annum?

A £300
B £243
C £270
D £330

Question 18
When a shareholder in a limited company sells his shares to another private investor for more than he paid for them, the share capital of the company will:

A increase by the nominal value of the shares
B decrease by the nominal value of the shares
C remain unchanged
D decrease by the amount received for the shares

Question 19
Goods costing £1,000 sold for £1,500 on credit terms would:

A increase receivables by £1,500 and reduce inventory by £1,000
B increase receivables by £1,500 and reduce inventory by £1,500
C increase payables by £1,500 and reduce inventory by £1,000
D increase payables by £1,500 and reduce inventory by £1,500

Question 20
A highly geared company...

A ...is likely to earn high profits
B ...reduces the returns to shareholders
C ...is not very sensitive to changes in demand and interest rates
D ...will tend to be sensitive to changes in demand and interest rates

SECTION B – this section carries a 60% weighting

ANSWER ONE QUESTION ONLY

Question 1

Barney Rubble (Demolitions) Ltd. supplies the following estimates to you for the year 20X7:

£,000	May	Jun	Jul	Aug	Sep	Oct	Nov
Sales	72,000	90,000	144,000	180,000	84,000	60,000	54,000
Admin. expenses	4,500	4,400	5,600	5,300	4,400	4,100	4,600
Selling expenses	7,200	9,000	14,400	18,000	8,400	6,000	5,400
Purchases	60,000	75,000	120,000	150,000	70,000	50,000	45,000
Depreciation	12,000	12,000	14,000	14,000	14,000	14,000	14,000
Labour costs	8,500	8,500	12,500	18,000	12,500	4,500	4,500

Additional information:

- The balance at bank on August 1 is expected to be £100,000.
- 40% of sales are **cash sales**.
- Half the credit customers pay two months after delivery and the remaining 50% pay three months after delivery, no bad debts are anticipated.
- Suppliers allow one month's credit for payment for purchases.
- Selling expenses and labour costs are paid in the month of the sale.
- Administration expenses are paid one month after they are incurred.

Required:

(a) Prepare a cash flow forecast for **the three** months – August, September and October, 20X7.

(66.7% weighting)

(b) Explain why the preparation of a cash flow forecast is such a vital tool for the financial manager.

(33.3% weighting)
(Total 100%)

Question 2

Intertronic Products BV manufactures electronic components used in the appliance industry. The company currently purchases a particular part for €1.85. Because of problems with product quality and supplier reliability, Intertronic is considering whether to manufacture the part internally.

To begin production, new machinery must be acquired that costs €380,000. The machinery, which has a six-year life and an estimated residual value of €50,000, will be depreciated by a straight-line method. Bart Simsijn, a current Intertronic employee, will oversee manufacturing activities and will be given a €7,000 raise because of his increased responsibilities. Simsijn's original position will remain unfilled.

The company's cost accountants and engineers have estimated the unit production costs, at today's prices, as follows:

Direct materials	€0.25
Direct labour	0.35
Variable factory overhead	0.30
Fixed overhead	0.25

- The fixed overhead is recovered using the company's normal methods of cost absorption, relating to the overhead of running the company's existing manufacturing facility. No additional fixed costs are anticipated as a result of proceeding with the project.
- Intertronic must make an immediate €12,000 working capital investment to build up needed direct materials inventories.
- Annual production is expected to total 120,000 units over each of the next five years and 100,000 units in year six.
- At the end of six years, manufacturing activities related to this component will then be discontinued and the materials inventories depleted (i.e. working capital recovered) because of a planned change in Intertronic's product line.
- The machinery will be sold because its specialised nature means it has no alternative use in the company.

Management uses the net present value method to analyse investment opportunities, requiring a 14% minimum rate of return. Ignore income taxes and inflation, and round calculations to the nearest Euro.

Required

(a) Carry out calculations to determine whether Intertronic should make or buy the part.
(50% weighting)

(b) Your investigations reveal possible underestimation of the variable costs of production by as much as 5%. How might this affect your recommendation?
(20% weighting)

(c) What other factors should be taken into account in arriving at this decision.
(30% weighting)
(Total 100%)

Question 3

Tuckers Musical Instruments Inc (TMI) manufacture and assemble two types of guitar which are called Flyer and Cruiser. The Flyer is handcrafted and requires a good deal of skilled labour to assemble. The Cruiser is mass produced from a highly automated factory imported from Japan.

TMI is a private company owned by three brothers called Tommy, Eric and Paul Tucker who all work in the business. In the first five years of operation the rate of return on capital invested has varied between 30% and 40%. In other words it has been a very profitable business.

TMI employ George King CPA, a professional accountant to advise on financial matters and prepare the quarterly accounts. After preparing the accounts for the sixth year to 30th June 20X3, the accountant calls in Mr Tommy Tucker, the Chairman of TMI for a discussion. The accountant points out that a quarterly set of financial accounts are not really good enough to run a business the size of TMI. Some sort of cost accounting system is needed to provide relevant figures for deciding on price and allocating cost meaningfully between the two products.

You are sent into TMI to devise a useful costing system and, from the figures produced, to provide some advice to the Tucker brothers on the price and the volume of output of Flyers and Cruisers in the coming year.

You analyse the accounts for the year to 30th June 20X3 and come up with the following figures:

	Flyer		**Cruiser**
Number produced	1,000		10,000
Number sold	1,100		8,500
Unit selling price ($)	1,000		100
Stock of instruments at 30/06/X3	50		2,000
Sales value ($'000)	1,100		850
Variable cost per unit ($)	500		20
Direct specific fixed costs ($'000)	150		500
Indirect fixed cost ($'000)		300	

You provide these figures to the board of TMI. After reviewing the figures the Tucker brothers disagree on future policy.

- Tommy Tucker says "Leave things as they are. Sales and costs will be about the same in the year to 20X4 as they are in 20X3. We are doing fine".

- Eric Tucker says "We can't make enough Flyers let's put the price up to $1,200. This will reduce sales to about 900 but it will take pressure off production".

- Paul Tucker says "The Cruisers are a dead loss, they are hardly covering their costs. Let's close the Cruiser factory. The sale price will just cover the redundancy costs. Then we can make and sell at least 1,400 Flyers at $1,000 each. With the reduction in scale of operations I think we should be able to make a saving of at least a third of the central fixed costs as well – that's about $100k. And another thing – with the increased volumes of the Flyers, we can expect a reduction of at least 5% in the variable cost per instrument. I'm sure this will turn out to be a more profitable approach".

Required

(a) Assuming that the company's objective is to maximise their profit, prepare a report for the directors identifying which option they should take.

(60% weighting)

(b) From the additional information given, what other factors would be important in coming to a decision.

(40% weighting)
(Total 100%)

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

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