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PowerBall Analysis

Odds to win the grand prize : 1 in 292,201,338
or
0.0000003422% of winning

Current Grand Prize: \$ 20,000,000 annuity
or
\$ 10,600,000 immediate cash payout

Annuity Growth Rate 5.00%

Question.1	66.43885		3.87724%	10,600,020.13	
Question.2		Annuity	Present Value	Present Value of	Excel NPV Function
	Time(Yrs)	Factor	factor	Cash Flow	
	0	1	301,028.70	1.00000	301,028.70
	1	1.05	316,080.14	0.96267	304,282.38
	2	1.10	331,884.14	0.92674	307,571.22
	3	1.16	348,478.35	0.89215	310,895.62
	4	1.22	365,902.27	0.85885	314,255.94
	5	1.28	384,197.38	0.82680	317,652.58
	6	1.34	403,407.25	0.79593	321,085.94
	7	1.41	423,577.61	0.76623	324,556.41
	8	1.48	444,756.49	0.73763	328,064.38
	9	1.55	466,994.32	0.71009	331,610.28
	10	1.63	490,344.03	0.68359	335,194.49
	11	1.71	514,861.24	0.65808	338,817.45
	12	1.80	540,604.30	0.63351	342,479.57
	13	1.89	567,634.51	0.60987	346,181.27
	14	1.98	596,016.24	0.58710	349,922.98
	15	2.08	625,817.05	0.56519	353,705.13
	16	2.18	657,107.90	0.54409	357,528.16
	17	2.29	689,963.30	0.52379	361,392.52
	18	2.41	724,461.46	0.50423	365,298.64
	19	2.53	760,684.54	0.48541	369,246.98
	20	2.65	798,718.76	0.46730	373,237.99
	21	2.79	838,654.70	0.44985	377,272.15
	22	2.93	880,587.44	0.43306	381,349.90
	23	3.07	924,616.81	0.41690	385,471.73
	24	3.23	970,847.65	0.40134	389,638.12
	25	3.39	1,019,390.03	0.38636	393,849.53
	26	3.56	1,070,359.53	0.37194	398,106.46
	27	3.73	1,123,877.51	0.35805	402,409.41
	28	3.92	1,180,071.38	0.34469	406,758.86
	29	4.12	1,239,074.95	0.33182	411,155.33
	Total	66.44	20,000,000.00		

Q.3

Choosing an annuity payment of 20 Million which spreads over 30 years helps in the steady cashfow which helps in retirement planning or for managing financial goals. But an immediate cash payout amount of 10.6 Million can be better for the person if the alternative investment can give a return of more than 3.87724%.

Q.4 Expected Value of a ticket
\$ 0.04 Immediate cash payout multiplied with the Percentage of winning

Q.5 Jackpot option that creates a \$2 ticket
Ticket Price \$ 2.00 \$ 584,402,676.00