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$Q=V/P$

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$$P1 = P0 / (1+n)$$

$$P1 = (P0 + A/k) / (1+k)$$

$$P1 = (P0 + A/k) / (1+n+k)$$

$$P1 = P0 - D$$

$$P1 = (P0 - D + A/k) / (1+n+k)$$

P1

P0

n

k

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$IA = B \cdot i \cdot t / 365$

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IA=B i t/365

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2015 2017

	2017. 12. 31	2016. 12. 31	2015. 12. 31
	1, 180, 682, 486. 62	750, 915, 793. 51	680, 700, 081. 51
	-	24, 560, 740. 86	-
	567, 644, 412. 29	664, 405, 505. 78	324, 570, 084. 81
	615, 439, 800. 55	315, 150, 238. 03	246, 080, 891. 05
	455, 138, 960. 61	98, 723, 826. 46	408, 719, 800. 38
	8, 187, 807. 42	19, 849, 483. 18	12, 288, 733. 78
	1, 261, 401, 592. 78	950, 927, 745. 69	892, 445, 007. 20
	1, 055, 588, 404. 07	719, 327, 474. 79	1, 051, 882, 594. 15
	5, 144, 083, 464. 34	3, 543, 860, 808. 30	3, 616, 687, 192. 88

	2017. 12. 31	2016. 12. 31	2015. 12. 31
	650,478,262.40	30,000,000.00	230,000,000.00
	1,378,565,235.21	942,485,986.75	1,026,850,000.00
	386,905,264.61	311,498,683.58	214,005,620.54
	76,035,801.77	51,916,129.93	53,778,675.39
	58,255,649.34	55,241,598.59	40,240,808.08
	77,758,629.65	67,462,563.02	24,608,473.44
	913,815.86	-	-
	3,926,077.20	950,065.20	904,824.00
	412,372,089.18	348,143,833.27	152,978,989.82
	1,883,699.96	2,183,699.96	1,175,000.00
	55,490,594.11	40,342,467.26	23,178,943.13
	3,102,585,119.29	1,850,225,027.56	1,767,721,334.40
	12,398,875.08	14,282,575.04	6,463,333.33

	2017	2016	2015
	10,366,295,441.46	7,481,327,350.49	6,296,182,192.29
	9,434,937,643.17	6,848,893,341.44	5,846,551,525.18
	29,068,580.89	22,599,555.30	6,019,414.61
	197,943,254.85	153,551,270.22	123,315,058.39
	193,623,933.39	136,209,756.33	127,582,942.15
	14,424,045.86	-22,904,558.15	-33,518,124.44
	9,243,182.59	19,447,628.50	9,964,541.04
	-3,573,748.36	3,573,748.36	-
	-4,938,229.99	35,156,673.25	21,752,473.77
	-1,602,874.26	2,011,614.13	1,972,259.73
	8,693,079.96	-	-
	485,633,028.06	364,272,392.59	239,991,568.86
	1,142,255.36	5,022,871.59	3,288,348.25
	10,193,026.99	2,421,701.93	1,242,892.16
	476,582,256.43	366,873,562.25	242,037,024.95
	108,316,272.63	78,876,001.20	49,200,572.23
	368,265,983.80	287,997,561.05	192,836,452.72
	368,265,983.80	287,997,561.05	192,836,452.72
	-	-	-
	351,966,109.86	269,177,538.44	172,966,136.00
	16,299,873.94	18,820,022.61	19,870,316.72
	368,265,983.80	287,997,561.05	192,836,452.72
	351,966,109.86	269,177,538.44	172,966,136.00
	16,299,873.94	18,820,022.61	19,870,316.72
	0.73	0.59	0.42
	0.72	0.59	0.41

	2017	2016	2015
	5, 538, 539, 947. 45	5, 306, 565, 665. 15	4, 497, 531, 041. 40
	-	-	14, 831, 416. 17
	3, 151, 077. 53	5, 016, 789. 25	14, 922, 395. 61
	342, 416, 598. 93	185, 237, 256. 76	219, 387, 635. 03
	63, 968, 039. 92	26, 794, 011. 73	41, 904, 448. 48
	5, 948, 075, 663. 83	5, 523, 613, 722. 89	4, 788, 576, 936. 69
	5, 553, 204, 334. 78	4, 889, 889, 909. 87	4, 422, 715, 355. 53
	1, 158, 998. 83	24, 445, 989. 01	-
	283, 778, 045. 73	245, 318, 949. 15	207, 590, 937. 00
	126, 698, 804. 36	86, 727, 365. 30	112, 481, 063. 64
	263, 924, 693. 13	207, 533, 873. 96	154, 880, 697. 73
	6, 228, 764, 876. 83	5, 453, 916, 087. 29	4, 897, 668, 053. 90
	-280, 689, 213. 00	69, 697, 635. 60	-109, 091, 117. 21
	3, 947, 688, 355. 09	4, 975, 460, 000. 00	3, 622, 151, 847. 77
	34, 303, 414. 92	35, 156, 673. 25	300, 626. 00
	2, 000, 731. 16	1, 036, 229. 14	24, 000. 00
	27, 582, 863. 01	-	-
	4, 011, 575, 364. 18	5, 011, 652, 902. 39	3, 622, 476, 473. 77
	408, 168, 650. 44	323, 646, 010. 53	101, 268, 756. 89
	4, 470, 713, 007. 50	4, 642, 976, 992. 50	4, 232, 000, 000. 00
	55, 794, 332. 71	-	-
	100, 000. 00	79, 610, 540. 18	-
	4, 934, 775, 990. 65	5, 046, 233, 543. 21	4, 333, 268, 756. 89
	-923, 200, 626. 47	-34, 580, 640. 82	-710, 792, 283. 12

	2017	2016	2015
	1,089,498,753.09	226,843,600.00	736,450,000.00
	685,910,663.22	30,000,000.00	310,000,000.00
	-	43,522,245.53	287,068,188.26
	1,775,409,416.31	300,365,845.53	1,333,518,188.26
	57,436,632.00	230,000,000.00	366,000,000.00
	54,854,664.03	60,281,607.70	60,067,787.87
	2,960,000.00	2,740,000.00	7,837,500.00
	278,138,290.34	-	13,842,180.32
	390,429,586.37	290,281,607.70	439,909,968.19
	1,384,979,829.94	10,084,237.83	893,608,220.07
	-568,462.33	1,526,184.74	18,443,904.03
	180,521,528.14	46,727,417.35	92,168,723.77
	397,781,493.33	351,054,075.98	258,885,352.21
	578,303,021.47	397,781,493.33	351,054,075.98

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1 2017

	510,796,000.00	2,390,737,011.56	255,948,772.00	119,279,581.26	1,113,099,681.55	196,387,913.49	4,074,351,415.86
:	-	-	-	-	-	-	-
	510,796,000.00	2,390,737,011.56	255,948,772.00	119,279,581.26	1,113,099,681.55	196,387,913.49	4,074,351,415.86
	79,188,335.00	1,094,314,525.38	14,868,320.00	29,022,287.91	271,864,221.95	-14,735,087.07	1,444,785,963.17
	-	-	-	-	351,966,109.86	16,299,873.94	368,265,983.80
	79,188,335.00	1,094,314,525.38	14,868,320.00	-	-	-28,074,961.01	1,130,559,579.37
1	79,188,335.00	1,010,310,418.09	18,175,000.00	-	-	-	1,071,323,753.09
2	-	40,172,052.44	-3,306,680.00	-	-	-	43,478,732.44
3	-	43,832,054.85	-	-	-	-28,074,961.01	15,757,093.84
	-	-	-	29,022,287.91	-80,101,887.91	-2,960,000.00	-54,039,600.00
1	-	-	-	29,022,287.91	-29,022,287.91	-	-
2	-	-	-	-	-51,079,600.00	-2,960,000.00	-54,039,600.00
	589,984,335.00	3,485,051,536.94	270,817,092.00	148,301,869.17	1,384,963,903.50	181,652,826.42	5,519,137,379.03

2 2016

	482,756,000.00	2,169,354,641.99	59,316,240.00	96,647,254.65	919,657,629.72	180,307,890.88	3,789,407,177.24
:	-	-	-	-	-	-	-
	482,756,000.00	2,169,354,641.99	59,316,240.00	96,647,254.65	919,657,629.72	180,307,890.88	3,789,407,177.24
	28,040,000.00	221,382,369.57	196,632,532.00	22,632,326.61	193,442,051.83	16,080,022.61	284,944,238.62
	-	-	-	-	269,177,538.44	18,820,022.61	287,997,561.05
	28,040,000.00	221,382,369.57	196,632,532.00	-	-	-	52,789,837.57
1	28,040,000.00	198,803,600.00	226,843,600.00	-	-	-	-
2	-	22,578,769.57	-30,211,068.00	-	-	-	52,789,837.57
3	-	-	-	-	-	-	-
	-	-	-	22,632,326.61	-75,735,486.61	-2,740,000.00	-55,843,160.00
1	-	-	-	22,632,326.61	-22,632,326.61	-	-
2	-	-	-	-	-53,103,160.00	-2,740,000.00	-55,843,160.00
	510,796,000.00	2,390,737,011.56	255,948,772.00	119,279,581.26	1,113,099,681.55	196,387,913.49	4,074,351,415.86

3 2015

	417,756,000.00	1,464,609,541.24	-	85,788,913.38	799,325,434.99	168,275,074.16	2,935,754,963.77
:	-	-	100,536,000.00	-	-	-	-100,536,000.00
	417,756,000.00	1,464,609,541.24	100,536,000.00	85,788,913.38	799,325,434.99	168,275,074.16	2,835,218,963.77
	65,000,000.00	704,745,100.75	-41,219,760.00	10,858,341.27	120,332,194.73	12,032,816.72	954,188,213.47
	-	-	-	-	172,966,136.00	19,870,316.72	192,836,452.72
	65,000,000.00	704,745,100.75	-41,219,760.00	-	-	-	810,964,860.75
1	65,000,000.00	657,607,819.68	-	-	-	-	722,607,819.68
2	-	47,137,281.07	-41,219,760.00	-	-	-	88,357,041.07
3	-	-	-	-	-	-	-
	-	-	-	10,858,341.27	-52,633,941.27	-7,837,500.00	-49,613,100.00
1	-	-	-	10,858,341.27	-10,858,341.27	-	-
2	-	-	-	-	-41,775,600.00	-7,837,500.00	-49,613,100.00
	482,756,000.00	2,169,354,641.99	59,316,240.00	96,647,254.65	919,657,629.72	180,307,890.88	3,789,407,177.24

	2017. 12. 31	2016. 12. 31	2015. 12. 31
	741,845,567.78	531,658,687.54	372,407,545.92
	-	24,560,740.86	-
	252,900,746.36	451,834,070.07	243,327,824.93
	502,641,107.75	296,730,759.85	142,990,428.52
	843,796,339.00	80,699,645.39	322,231,469.32
	3,844,271.41	17,348,604.67	3,215,933.30
	864,683,083.16	751,324,952.63	712,793,043.49
	825,622,627.69	673,940,472.06	1,017,693,697.46
	4,035,333,743.15	2,828,097,933.07	2,814,659,942.94
	300,000,000.00	100,000,000.00	100,000,000.00
	1,038,367,649.69	500,572,338.92	341,783,213.06
	1,133,880,293.11	1,031,214,437.25	901,373,254.43
	180,342,052.06	56,619,368.59	104,162,740.60
	38,061,532.88	39,043,346.75	39,310,380.84
	30,720,920.52	32,941,216.17	23,397,112.81
	214,085,761.91	144,371,008.48	32,708,563.27
	2,935,458,210.17	1,904,761,716.16	1,542,735,265.01
	6,970,791,953.32	4,732,859,649.23	4,357,395,207.95

	2017. 12. 31	2016. 12. 31	2015. 12. 31
	585,468,670.40	30,000,000.00	130,000,000.00
	770,000,000.00	555,000,000.00	602,300,000.00
	202,097,997.33	176,505,300.87	144,894,994.20
	29,210,284.17	21,186,529.55	27,669,691.99
	42,930,907.94	45,368,272.53	34,591,262.94
	54,815,594.53	45,574,386.97	4,010,978.40
	861,447.02	-	-
	3,926,077.20	950,065.20	904,824.00
	364,424,561.70	307,767,503.12	106,863,625.47
	425,000.00	625,000.00	625,000.00
	28,817,452.78	27,447,297.99	11,072,013.74
	2,082,977,993.07	1,210,424,356.23	1,062,932,390.74
	2,425,833.33	2,850,833.33	3,475,833.33
	5,611,417.45	9,331,278.38	6,743,746.29
	8,037,250.78	12,182,111.71	10,219,579.62
	2,091,015,243.85	1,222,606,467.94	1,073,151,970.36
	589,984,335.00	510,796,000.00	482,756,000.00
	3,456,797,245.63	2,390,737,011.56	2,169,354,641.99
	270,817,092.00	255,948,772.00	59,316,240.00
	148,301,869.17	119,279,581.26	96,647,254.65
	955,510,351.67	745,389,360.47	594,801,580.95
	4,879,776,709.47	3,510,253,181.29	3,284,243,237.59
	6,970,791,953.32	4,732,859,649.23	4,357,395,207.95

	2017	2016	2015
	6,805,334,061.92	5,237,201,948.55	4,231,442,708.41
	6,202,686,125.06	4,802,749,727.86	3,975,736,645.35
	18,558,501.46	10,231,845.91	2,657,043.20
	109,070,669.63	94,865,773.45	80,104,926.57
	96,683,878.07	94,574,486.16	96,500,480.72
	3,094,753.27	-13,344,701.94	-19,162,006.76
	-3,674,877.95	11,190,327.53	733,629.24
	-3,573,748.36	3,573,748.36	-
	-1,000,829.98	40,335,961.51	36,715,809.51
	-824,129.95	1,955,663.40	1,225,874.35
	3,187,980.00	-	-
	376,704,284.09	282,799,862.85	132,813,673.95
	542,640.34	2,794,725.09	619,802.33
	6,461,376.87	2,399,669.44	1,135,425.58
	370,785,547.56	283,194,918.50	132,298,050.70
	80,562,668.45	56,871,652.37	23,714,638.03
	290,222,879.11	226,323,266.13	108,583,412.67
	290,222,879.11	226,323,266.13	108,583,412.67
	-	-	-
	-	-	-
	290,222,879.11	226,323,266.13	108,583,412.67

	2017	2016	2015
	3,928,995,068.36	3,736,911,662.16	3,117,566,416.21
	154,082,419.93	85,323,298.19	122,568,678.60
	62,601,855.50	9,919,648.00	12,404,142.63
	4,145,679,343.79	3,832,154,608.35	3,252,539,237.44
	4,105,951,544.83	3,476,978,824.24	3,233,528,727.31
	181,687,180.86	173,132,155.78	152,469,935.31
	85,999,839.65	39,357,931.68	71,173,692.74
	140,050,272.65	122,259,478.09	92,986,503.71
	4,513,688,837.99	3,811,728,389.79	3,550,158,859.07
	-368,009,494.20	20,426,218.56	-297,619,621.63
	1,809,258,355.09	3,530,300,000.00	3,003,953,309.51
	38,240,814.93	40,335,961.51	16,762,500.00
	1,898,235.17	868,733.60	24,000.00
	15,348,528.30	-	-
	1,864,745,933.49	3,571,504,695.11	3,020,739,809.51
	167,863,475.42	123,661,995.87	13,571,561.59
	2,634,373,007.50	3,366,586,992.50	3,714,000,000.00
	70,000,000.00	-	-
	-	36,659,368.30	-
	2,872,236,482.92	3,526,908,356.67	3,727,571,561.59
	-1,007,490,549.43	44,596,338.44	-706,831,752.08

	2017	2016	2015
	1,089,498,753.09	226,843,600.00	736,450,000.00
	620,277,873.71	30,000,000.00	160,000,000.00
	-	12,700,000.00	290,550,240.60
	1,709,776,626.80	269,543,600.00	1,187,000,240.60
	57,436,632.00	130,000,000.00	170,000,000.00
	51,719,866.83	56,105,213.26	46,999,751.80
	139,949,357.59	-	13,842,180.32
	249,105,856.42	186,105,213.26	230,841,932.12
	1,460,670,770.38	83,438,386.74	956,158,308.48
	415,324.20	830,829.58	8,618,444.27
	85,586,050.95	149,291,773.32	-39,674,620.96
	338,499,319.24	189,207,545.92	228,882,166.88
	424,085,370.19	338,499,319.24	189,207,545.92

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1 2017

	510,796,000.00	2,390,737,011.56	255,948,772.00	119,279,581.26	745,389,360.47	3,510,253,181.29
:	-	-	-	-	-	-
	510,796,000.00	2,390,737,011.56	255,948,772.00	119,279,581.26	745,389,360.47	3,510,253,181.29
	79,188,335.00	1,066,060,234.07	14,868,320.00	29,022,287.91	210,120,991.20	1,369,523,528.18
	-	-	-	-	290,222,879.11	290,222,879.11
	79,188,335.00	1,066,060,234.07	14,868,320.00	-	-	1,130,380,249.07
1	79,188,335.00	1,010,310,418.09	18,175,000.00	-	-	1,071,323,753.09
2	-	40,172,052.44	-3,306,680.00	-	-	43,478,732.44
3	-	15,577,763.54	-	-	-	15,577,763.54
	-	-	-	29,022,287.91	-80,101,887.91	-51,079,600.00
1	-	-	-	29,022,287.91	-29,022,287.91	-
2	-	-	-	-	-51,079,600.00	-51,079,600.00
	589,984,335.00	3,456,797,245.63	270,817,092.00	148,301,869.17	955,510,351.67	4,879,776,709.47

2 2016

	482,756,000.00	2,169,354,641.99	59,316,240.00	96,647,254.65	594,801,580.95	3,284,243,237.59
:	-	-	-	-	-	-
	482,756,000.00	2,169,354,641.99	59,316,240.00	96,647,254.65	594,801,580.95	3,284,243,237.59
	28,040,000.00	221,382,369.57	196,632,532.00	22,632,326.61	150,587,779.52	226,009,943.70

3 2015

	417,756,000.00	1,464,609,541.24	-	85,788,913.38	538,852,109.55	2,507,006,564.17
:	-	-	100,536,000.00	-	-	-100,536,000.00
	417,756,000.00	1,464,609,541.24	100,536,000.00	85,788,913.38	538,852,109.55	2,406,470,564.17
	65,000,000.00	704,745,100.75	-41,219,760.00	10,858,341.27	55,949,471.40	877,772,673.42
	-	-	-	-	108,583,412.67	108,583,412.67
	65,000,000.00	704,745,100.75	-41,219,760.00	-	-	810,964,860.75
1	65,000,000.00	657,607,819.68	-	-	-	722,607,819.68
2	-	47,137,281.07	-41,219,760.00	-	-	88,357,041.07
3	-	-	-	-	-	-
	-	-	-	10,858,341.27	-52,633,941.27	-41,775,600.00
1	-	-	-	10,858,341.27	-10,858,341.27	-
2	-	-	-	-	-41,775,600.00	-41,775,600.00
	482,756,000.00	2,169,354,641.99	59,316,240.00	96,647,254.65	594,801,580.95	3,284,243,237.59

2017

				80.56%
				100.00%
				65.00%
				100.00%
				90.40%
				100.00%
				100.00%
				100.00%
				100.00%

2016

2016

2017

2017

2017 4

100%

2017

4

	2017. 12. 31 2017	2016. 12. 31 2016	2015. 12. 31 2015
	1.66	1.92	2.05
	1.25	1.40	1.54
	30.00%	25.83%	24.63%
	21.03	24.78	19.45
	8.45	7.37	6.29
/	-0.48	0.14	-0.23
/	0.31	0.09	0.19
	1.75%	1.71%	0.93%

	2017	2016	2015
%	8.65	7.23	

	2017	2016	2015
	1,036,629.54	748,132.74	629,618.22
	943,493.76	684,889.33	584,655.15
	48,563.30	36,427.24	23,999.16
	47,658.23	36,687.36	24,203.70
	36,826.60	28,799.76	19,283.65
	35,196.61	26,917.75	17,296.61
	35,691.70	23,630.93	15,468.18

70%

271,995

11,637

203,911

1+1

1+4

250,000t/a

25,000t/a

100,000t/a

85,000t/a

40,000t/a

	/	408,585	
	/	33,770	
		15.90%	
		7.5	
		16.60%	
		50.20%	
		42.02%	1

30%

,

1

10%

2

0.2

1

80%

2

40%

3

20%

2

2/3

2/3

2015	5,310.32	17,296.61	30.70%
2016	5,107.96	26,917.75	18.98%
2017	5,898.76	35,196.61	16.76%

2015

2017

16,317.04

61.64%

30%

2018 -2020

1

2

1

80%



