



- (A) 6,7%  
 (B) 7,0%  
 (C) 9,8%  
 (D) 11,5%  
 (E) 17,3%

RESOLUÇÃO DE QUESTÕES CESGRANRIO  
Prof. Bruno Lima



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### (CESGRANRIO / LIQUIGÁS / 2013)

Qual a taxa nominal anual, capitalizada mensalmente, que transforma um investimento de R\$ 12.000,00 em um montante de R\$ 14.520,00 no período de 2 meses?

- (A) 10%  
 (B) 12%  
 (C) 60%  
 (D) 120%  
 (E) 14,4%

RESOLUÇÃO DE QUESTÕES CESGRANRIO  
Prof. Bruno Lima



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### (CESGRANRIO / INNOVA / 2012)

Qual o montante ( $S$ ) resultante de uma aplicação de R\$ 40.000,00, pelo prazo de 272 dias, a uma taxa de 12% ao ano, capitalizada mensalmente?

- (A)  $S = 40000 \times (1 + 0,12)^{\frac{272}{360}}$   
 (B)  $S = 40000 \times (1 + 0,01)^{\frac{272}{360}}$   
 (C)  $S = 40000 \times (1 + 0,01)^{\frac{272}{30}}$   
 (D)  $S = 40000 \times (1 + 0,12)^{\frac{272}{30}}$   
 (E)  $S = 40000 \times \left(1 + \frac{0,12}{360}\right)^{\frac{272}{30}}$

RESOLUÇÃO DE QUESTÕES CESGRANRIO  
Prof. Bruno Lima



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### (CESGRANRIO / LIQUIGÁS / 2012)

Uma empresa aplicou um capital de R\$ 100.000,00 pelo prazo de dois meses, ao final dos quais recebeu R\$ 3.000,00 de juros.

Considerando-se que a inflação acumulada no período foi de 2%, pelo método de cálculo de juros compostos, pode-se afirmar que a taxa de juros  
 (A) real foi de 1% ao mês  
 (B) real foi de 0,98% no período  
 (C) nominal foi de 3% ao mês  
 (D) nominal foi de 1% no período  
 (E) nominal foi de 2% no período

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### (CESGRANRIO / PETROBRAS / 2011)

Os bancários tiveram um aumento nominal nos seus salários de 7,5%. Se o aumento real conquistado foi de 3,1%, a taxa de inflação do período é mais próxima de

- (A) 10,8%  
 (B) 4,4%  
 (C) 4,3%  
 (D) 4,0%  
 (E) 3,8%

RESOLUÇÃO DE QUESTÕES CESGRANRIO  
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### (CESGRANRIO / CEF / 2012)

Nas operações de empréstimo, uma financeira cobra taxa efetiva de juros, no regime de capitalização composta, de 10,25% ao ano. Isso equivale a cobrar juros com taxa anual e capitalização semestral de

- (A) 5%  
 (B) 5,51%  
 (C) 10%  
 (D) 10,25%  
 (E) 10,51%

RESOLUÇÃO DE QUESTÕES CESGRANRIO  
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**(CESGRANRIO / BANCO DO BRASIL / 2012)**

Um investimento rende a taxa nominal de 12% ao ano com capitalização trimestral. A taxa efetiva anual do rendimento correspondente é, aproximadamente,

- (A) 12%
- (B) 12,49%
- (C) 12,55%
- (D) 13%
- (E) 13,43%

RESOLUÇÃO DE QUESTÕES CESGRANRIO  
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**(CESGRANRIO / PETROBRAS / 2011)**

A remuneração percentual devida a um capital que foi aplicado à taxa de juros compostos de 5% ao trimestre, durante um semestre, é de

- (A) 30,00%
- (B) 20,25%
- (C) 15,76%
- (D) 10,25%
- (E) 10,00%

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**(CESGRANRIO / PETROBRAS / 2011)**

Utilize a tabela, caso haja necessidade, para resolver a questão.

Fatores de acumulação de capital: $F = (1+i)^n$	
$n$	$i = 4\%$
1	1,0400
2	1,0816
3	1,1249
4	1,1699
5	1,2167
6	1,2633
7	1,3159
8	1,3686
9	1,4233
10	1,4802
12	1,6010
18	2,0258

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Ana aplicou R\$ 20.000,00 a juros compostos durante 2 meses e resgatou, ao final do prazo, R\$ 21.632,00. A taxa anual da aplicação foi de

- (A) 60,10%
- (B) 58,18%
- (C) 48,00%
- (D) 42,58%
- (E) 36,00%

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**(CESGRANRIO / BANCO DO BRASIL / 2010)**

Um investimento obteve variação nominal de 15,5% ao ano. Nesse mesmo período, a taxa de inflação foi 5%. A taxa de juros real anual para esse investimento foi

- (A) 0,5%.
- (B) 5,0%.
- (C) 5,5%.
- (D) 10,0%.
- (E) 10,5%.

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**(CESGRANRIO / DETRA-AC / 2009)**

No ano de 2005 Maurício fez uma aplicação que obteve rendimento líquido de 9,0%. Nesse período, a inflação apurada foi de 1,3%. Considerando os dados fornecidos, o rendimento nominal da aplicação é de

- (A) 9,88%
- (B) 10,42%
- (C) 10,67%
- (D) 11,03%
- (E) 12,17%

RESOLUÇÃO DE QUESTÕES CESGRANRIO  
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**(CESGRANRIO / BNDES / 2009)**

**Estratégia**  
Lembrete

Fator de Acumulação de Capital

(n=1)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	15%	18%
1	1,01	1,02	1,03	1,04	1,05	1,06	1,07	1,08	1,09	1,10	1,12	1,15	1,18
2	1,0201	1,0404	1,0609	1,0816	1,1025	1,1236	1,1449	1,1664	1,1881	1,2100	1,2322	1,2649	1,2979
3	1,0303	1,0619	1,0937	1,1257	1,1579	1,1903	1,2230	1,2559	1,2889	1,3221	1,3556	1,3904	1,4256
4	1,0406	1,0836	1,1157	1,1481	1,1807	1,2136	1,2469	1,2805	1,3144	1,3487	1,3834	1,4184	1,4537
5	1,0510	1,1046	1,1360	1,1677	1,2092	1,2508	1,2921	1,3336	1,3751	1,4167	1,4581	1,5004	1,5429
6	1,0615	1,1252	1,1560	1,1870	1,2178	1,2486	1,2793	1,3196	1,3594	1,3991	1,4389	1,4786	1,5184
7	1,0719	1,1456	1,1760	1,2063	1,2364	1,2664	1,2963	1,3263	1,3563	1,3863	1,4263	1,4663	1,5063
8	1,0823	1,1659	1,2054	1,2349	1,2644	1,2939	1,3233	1,3529	1,3823	1,4119	1,4513	1,4909	1,5304
9	1,0927	1,1861	1,2250	1,2546	1,2842	1,3136	1,3429	1,3722	1,4016	1,4309	1,4699	1,5087	1,5473
10	1,1031	1,2063	1,2457	1,2752	1,3047	1,3340	1,3632	1,3924	1,4215	1,4506	1,4895	1,5282	1,5667
11	1,1134	1,2265	1,2650	1,2944	1,3235	1,3527	1,3817	1,4106	1,4395	1,4684	1,5072	1,5458	1,5842
12	1,1237	1,2467	1,2846	1,3139	1,3430	1,3720	1,4009	1,4297	1,4585	1,4873	1,5261	1,5647	1,6032
13	1,1439	1,2869	1,3259	1,3550	1,3841	1,4131	1,4420	1,4709	1,5097	1,5386	1,5774	1,6162	1,6550
14	1,1542	1,3171	1,3560	1,3850	1,4140	1,4430	1,4720	1,5009	1,5298	1,5587	1,5976	1,6365	1,6753
15	1,1645	1,3473	1,3850	1,4139	1,4428	1,4717	1,5005	1,5294	1,5583	1,5872	1,6261	1,6650	1,7038
16	1,1748	1,3775	1,4137	1,4425	1,4713	1,5000	1,5287	1,5575	1,5863	1,6152	1,6541	1,6930	1,7318
17	1,1851	1,4077	1,4424	1,4711	1,5000	1,5285	1,5571	1,5858	1,6146	1,6435	1,6824	1,7213	1,7601
18	1,1954	1,4379	1,4711	1,5000	1,5287	1,5574	1,5859	1,6146	1,6434	1,6723	1,7112	1,7501	1,7889
19	1,2057	1,4681	1,4998	1,5285	1,5572	1,5859	1,6145	1,6432	1,6720	1,7009	1,7398	1,7787	1,8175
20	1,2160	1,4983	1,5280	1,5567	1,5854	1,6141	1,6430	1,6717	1,7005	1,7294	1,7683	1,8072	1,8460
21	1,2263	1,5285	1,5562	1,5848	1,6135	1,6422	1,6709	1,7096	1,7384	1,7673	1,8062	1,8451	1,8839
22	1,2366	1,5587	1,5844	1,6131	1,6418	1,6705	1,7092	1,7379	1,7667	1,8056	1,8445	1,8834	1,9222
23	1,2469	1,5889	1,6126	1,6413	1,6699	1,6986	1,7273	1,7560	1,7848	1,8237	1,8626	1,9015	1,9393
24	1,2572	1,6191	1,6408	1,6690	1,6976	1,7263	1,7550	1,7837	1,8125	1,8514	1,8903	1,9292	1,9670
25	1,2675	1,6493	1,6689	1,6971	1,7257	1,7544	1,7831	1,8118	1,8406	1,8795	1,9184	1,9573	1,9951
26	1,2778	1,6795	1,6971	1,7253	1,7539	1,7826	1,8113	1,8400	1,8688	1,9077	1,9466	1,9855	2,0233
27	1,2881	1,7097	1,7253	1,7535	1,7821	1,8108	1,8395	1,8682	1,8970	1,9359	1,9748	2,0137	2,0515
28	1,3084	1,7399	1,7535	1,7817	1,8103	1,8390	1,8677	1,8964	1,9252	1,9641	2,0030	2,0419	2,0807
29	1,3287	1,7699	1,7817	1,8109	1,8395	1,8682	1,8969	1,9256	1,9544	1,9933	2,0322	2,0711	2,1099
30	1,3490	1,8001	1,8100	1,8391	1,8677	1,8964	1,9251	1,9538	1,9826	2,0215	2,0604	2,0993	2,1381
31	1,3693	1,8303	1,8289	1,8579	1,8865	1,9152	1,9439	1,9726	2,0014	2,0403	2,0792	2,1181	2,1569
32	1,3896	1,8605	1,8477	1,8765	1,9051	1,9338	1,9625	1,9912	2,0200	2,0589	2,0978	2,1367	2,1755
33	1,4099	1,8907	1,8664	1,8952	1,9238	1,9525	1,9812	2,01	2,0399	2,0788	2,1177	2,1565	2,1953
34	1,4302	1,9209	1,8851	1,9139	1,9425	1,9712	1,9999	2,0286	2,0573	2,0962	2,1351	2,1739	2,2127
35	1,4605	1,9511	1,9038	1,9325	1,9611	1,9898	2,0185	2,0472	2,0760	2,1149	2,1538	2,1926	2,2314
36	1,4908	1,9813	1,9225	1,9412	1,9698	1,9985	2,0272	2,0559	2,0847	2,1236	2,1625	2,2013	2,2399
37	1,5211	2,0115	1,9412	1,96	1,9898	2,0185	2,0472	2,0760	2,1048	2,1437	2,1826	2,2214	2,2602
38	1,5514	2,0417	1,96	1,9885	2,0172	2,0459	2,0746	2,1033	2,1321	2,1710	2,2099	2,2487	2,2875
39	1,5817	2,0719	1,9882	2,0069	2,0355	2,0642	2,0929	2,1216	2,1504	2,1893	2,2282	2,2670	2,3058
40	1,6120	2,1021	2,0079	2,0266	2,0552	2,0839	2,1126	2,1413	2,1701	2,2089	2,2478	2,2866	2,3254
41	1,6423	2,1323	2,0276	2,0463	2,0750	2,1037	2,1324	2,1611	2,19	2,2389	2,2778	2,3166	2,3554
42	1,6726	2,1625	2,0473	2,0660	2,0947	2,1234	2,1521	2,1808	2,2096	2,2484	2,2873	2,3261	2,3649
43	1,7029	2,1927	2,0670	2,0857	2,1144	2,1431	2,1718	2,2005	2,2293	2,2681	2,3070	2,3458	2,3846
44	1,7332	2,2229	2,0867	2,1054	2,1351	2,1638	2,1925	2,2212	2,2500	2,2888	2,3277	2,3665	2,4053
45	1,7635	2,2531	2,1064	2,1251	2,1548	2,1835	2,2122	2,2409	2,2697	2,3085	2,3474	2,3862	2,4250
46	1,7938	2,2833	2,1261	2,1448	2,1745	2,2032	2,2319	2,2606	2,2894	2,3282	2,3671	2,4059	2,4447
47	1,8241	2,3135	2,1458	2,1645	2,1942	2,2229	2,2516	2,2803	2,3091	2,3479	2,3868	2,4256	2,4644
48	1,8544	2,3437	2,1655	2,1842	2,2139	2,2426	2,2713	2,3000	2,3288	2,3676	2,4065	2,4453	2,4841
49	1,8847	2,3739	2,1852	2,2039	2,2336	2,2623	2,2910	2,3197	2,3485	2,3873	2,4262	2,4650	2,5038
50	1,9150	2,4041	2,2050	2,2236	2,2533	2,2820	2,3107	2,3394	2,3682	2,4070	2,4459	2,4847	2,5235
51	1,9453	2,4343	2,2247	2,2433	2,2730	2,3017	2,3304	2,3591	2,3879	2,4267	2,4656	2,5044	2,5432
52	1,9756	2,4645	2,2444	2,2630	2,2927	2,3214	2,3501	2,3788	2,4076	2,4464	2,4853	2,5241	2,5629
53	2,0059	2,4947	2,2641	2,2827	2,3124	2,3411	2,3698	2,3985	2,4273	2,4661	2,5050	2,5438	2,5826
54	2,0362	2,5249	2,2838	2,3024	2,3321	2,3608	2,3895	2,4182	2,4470	2,4858	2,5247	2,5635	2,6023
55	2,0665	2,5551	2,3035	2,3221	2,3518	2,3805	2,4092	2,4379	2,4667	2,5055	2,5444	2,5832	2,6220
56	2,0968	2,5853	2,3232	2,3418	2,3715	2,4002	2,4289	2,4576	2,4864	2,5252	2,5641	2,6029	2,6417
57	2,1271	2,6155	2,3429	2,3615	2,3912	2,4199	2,4486	2,4773	2,5061	2,5449	2,5838	2,6226	2,6614
58	2,1574	2,6457	2,3626	2,3812	2,4109	2,4396	2,4683	2,4970	2,5258	2,5646	2,6035	2,6423	2,6811
59	2,1877	2,6759	2,3823	2,4009	2,4306	2,4593	2,4880	2,5167	2,5455	2,5843	2,6232	2,6620	2,7008
60	2,2180	2,7061	2,4020	2,4206	2,4503	2,4790	2,5077	2,5364	2,5652	2,6040	2,6428	2,6816	2,7204
61	2,2483	2,7363	2,4217	2,4403	2,4699	2,4986	2,5273	2,5560	2,5848	2,6236	2,6624	2,7012	2,7399
62	2,2786	2,7665	2,4414	2,4600	2,4896	2,5183	2,5470	2,5757	2,6045	2,6433	2,6821	2,7209	2,7597
63	2,3089	2,7967	2,4611	2,4800	2,5093	2,5379	2,5666	2,5953	2,6241	2,6629	2,7017	2,7405	2,7793
64	2,3392	2,8269	2,4808	2,5000	2,5290	2,5577	2,5864	2,6151	2,6439	2,6827	2,7215	2,7603	2,7991
65	2,3695	2,8571	2,5005	2,5197	2,5387	2,5674	2,5961	2,6248	2,6536	2,6924	2,7312	2,7699	2,8087
66	2,4008	2,8873	2,5202	2,5394	2,5584	2,5871	2,6158	2,6445	2,6733	2,7121	2,7509	2,7897	2,8285
67	2,4311	2,9175	2,5400	2,5591	2,5781	2,6068	2,6355	2,6642	2,6930	2,7318	2,7706	2,8094	2,8482
68	2,4614	2,9477	2,5597	2,5788	2,5988	2,6275	2,6562	2,6849	2,7137	2,7525	2,7913	2,8301	2,8689
69	2,4917	2,9779	2,5794	2,5985	2,6185	2,6472	2,6759	2,7046	2,7334	2,7722	2,8110	2,8498	2,8886
70	2,5220	3,0081	2,5991	2,6182	2,6382	2,6679	2,6966	2,7253	2,7541	2,7929	2,8317	2,8705	2,9093
71	2,5523	3,0383	2,6188	2,6380	2,6577	2,6874	2,7161	2,7448	2,7736	2,8124	2,8512	2,8900	2,9288
72	2,5826	3,0685	2,6385	2,6577	2,6774	2,7071	2,7358	2,7645	2,7933	2,8321	2,8709	2,9097	2,9485
73	2,6129	3,0987	2,6582	2,6774	2,6971	2,7268	2,7555	2,7842	2,8130	2,8518	2,8906	2,9294	2,9682
74	2,6432	3,1289	2,6779	2,6971	2,7168	2,7465	2,7752	2,8039	2,8327	2,8715	2,9103	2,9491	2,9879
75	2,6735	3,1591	2,6976	2,7168	2,7365	2,7662	2,7949	2,8236	2,8524	2,8912	2,9300	2,9688	2,9976
76	2,7038	3,1893	2,7173	2,7365	2,7562	2,7859	2,8146	2,8433	2,8721	2,9109	2,9497	2,9885	2,9973
77	2,7341	3,2195	2,7370	2,7562	2,7759	2,8056	2,8343	2,8630	2,8918	2,9306	2,9694	2,9982	2,9970
78	2,7644	3,2497	2,7567	2,7759	2,7956	2,8253	2,8540	2,8827	2,9115	2,9503	2,9891	2,9979	2,9967
79	2,7947	3,2799</											