1. Вычислите значение функции Эйлера для
2. Определите число решений сравнения
3. Решите систему линейных сравнений
4. Решите полиномиальное сравнение по простому модулю
5. Найдите любое (одно) решение полиномиального сравнения
6. Вычислите наилучшее приближение с точностью до
7. {{variant,n},{1,2450},{2,2460},{3,2464},{4,2475},{5,2478},{6,2490},{7,2508},{8,2520},{9,2530},{10,2541},{11,2550},{12,2562},{13,2574},{14,2580},{15,2590},{16,2604},{17,2610},{18,2618},{19,2625},{20,2640},{21,2646},{22,2660},{23,2670},{24,2688},{25,2695},{26,2700},{27,2706},{28,2730},{29,2750},{30,2760},{31,2772},{32,2790},{33,2800},{34,2805},{35,2814},{36,2820},{37,2835},{38,2838},{39,2850},{40,2856},{41,2860},{42,2870},{43,2880},{44,2898},{45,2904},{46,2910},{47,2926},{48,2940},{49,2970},{50,2982},{51,3000},{52,3003},{53,3010},{54,3024},{55,3030},{56,3036},{57,3045},{58,3060},{59,3066},{60,3080},{61,3090},{62,3102},{63,3108},{64,3120},{65,3135},{66,3150},{67,3168},{68,3180},{69,3190},{70,3192},{71,3210},{72,3220},{73,3234},{74,3240},{75,3255},{76,3270},{77,3276},{78,3290},{79,3300},{80,3318},{81,3330},{82,3360},{83,3366},{84,3388},{85,3390},{86,3402},{87,3410},{88,3420},{89,3430},{90,3432},{91,3444},{92,3450},{93,3465},{94,3480},{95,3486},{96,3498},{97,3500},{98,3510},{99,3520},{100,3528},{101,3540},{102,3542}}
8. {{variant,{a,b,c,p}},{1,{202,241,216,3209}},{2,{209,226,222,3469}},{3,{220,246,261,2677}},{4,{226,287,208,3361}},{5,{207,295,251,2797}},{6,{228,293,273,2897}},{7,{234,254,285,3499}},{8,{275,235,211,2731}},{9,{231,267,208,3253}},{10,{284,207,243,2731}},{11,{284,297,213,2621}},{12,{247,232,261,2861}},{13,{203,209,295,2617}},{14,{221,276,294,3001}},{15,{282,253,291,2843}},{16,{299,242,221,3037}},{17,{283,238,229,2557}},{18,{294,283,248,2999}},{19,{217,237,213,2833}},{20,{271,235,257,2551}},{21,{233,245,237,3251}},{22,{273,207,296,2999}},{23,{206,245,297,2969}},{24,{281,220,207,2711}},{25,{251,210,245,3449}},{26,{276,284,237,2909}},{27,{208,273,257,2521}},{28,{250,264,245,2837}},{29,{249,237,254,2617}},{30,{290,239,294,3037}},{31,{263,203,214,3169}},{32,{281,285,294,2707}},{33,{206,226,253,3259}},{34,{209,243,207,3457}},{35,{272,273,205,2687}},{36,{246,247,214,2713}},{37,{274,217,216,2683}},{38,{202,201,228,3329}},{39,{202,291,292,2687}},{40,{233,235,225,2647}},{41,{289,253,239,3457}},{42,{278,210,215,2903}},{43,{230,278,269,2999}},{44,{236,205,231,2887}},{45,{227,247,277,2687}},{46,{233,231,264,2837}},{47,{277,283,272,3343}},{48,{288,243,241,3061}},{49,{239,216,200,2897}},{50,{218,275,293,2621}},{51,{231,263,245,3187}},{52,{247,264,255,2579}},{53,{228,275,225,2903}},{54,{227,219,213,3167}},{55,{249,263,291,2939}},{56,{274,223,289,3461}},{57,{297,291,251,2683}},{58,{248,239,234,2999}},{59,{287,261,241,2903}},{60,{217,274,209,2713}},{61,{271,271,231,2939}},{62,{207,295,291,2767}},{63,{282,269,284,3203}},{64,{220,240,233,3089}},{65,{217,225,252,3329}},{66,{297,219,287,2579}},{67,{270,292,215,2797}},{68,{203,208,207,2777}},{69,{282,291,236,3499}},{70,{289,267,278,2857}},{71,{263,244,258,2633}},{72,{229,273,252,2647}},{73,{203,212,261,2699}},{74,{269,240,204,2677}},{75,{241,221,282,3457}},{76,{284,283,268,3313}},{77,{261,223,245,2711}},{78,{273,292,276,2503}},{79,{261,247,277,3449}},{80,{283,264,262,3313}},{81,{246,290,219,2903}},{82,{233,254,211,2777}},{83,{236,225,201,2621}},{84,{245,287,211,3499}},{85,{201,244,259,2857}},{86,{269,223,255,3019}},{87,{226,219,288,3373}},{88,{229,251,298,3433}},{89,{217,292,255,3191}},{90,{263,257,220,2917}},{91,{293,276,270,2687}},{92,{287,275,245,2647}},{93,{207,285,233,3181}},{94,{211,209,285,2663}},{95,{230,276,203,2939}},{96,{251,275,274,2687}},{97,{271,290,265,2579}},{98,{245,231,276,3089}},{99,{267,213,275,2903}},{100,{231,200,297,3023}},{101,{230,217,280,2749}},{102,{248,238,231,2557}}}
9. {{variant,{a1,a2,a3},{m1,m2,m3}},{1,{5,20,12},{41,49,44}},{2,{21,18,9},{50,41,39}},{3,{21,24,16},{57,43,44}},{4,{7,23,13},{53,49,43}},{5,{24,9,21},{37,56,51}},{6,{25,20,19},{38,65,37}},{7,{22,14,5},{37,42,43}},{8,{11,16,21},{35,38,41}},{9,{7,17,9},{47,64,45}},{10,{21,5,6},{59,61,45}},{11,{19,11,15},{59,37,39}},{12,{5,9,25},{58,47,57}},{13,{13,5,23},{56,59,51}},{14,{10,17,11},{63,47,40}},{15,{17,23,6},{45,49,58}},{16,{21,10,15},{41,36,35}},{17,{6,13,18},{56,57,41}},{18,{19,19,9},{39,35,64}},{19,{5,9,11},{58,35,39}},{20,{17,6,19},{48,61,55}},{21,{22,17,21},{47,43,53}},{22,{24,7,20},{47,53,41}},{23,{6,25,21},{37,44,35}},{24,{7,10,6},{37,63,43}},{25,{20,8,25},{65,48,47}},{26,{6,12,19},{55,46,53}},{27,{11,6,19},{53,37,64}},{28,{22,13,6},{41,47,57}},{29,{6,9,10},{41,61,49}},{30,{22,18,7},{47,65,36}},{31,{23,8,23},{49,65,51}},{32,{24,12,7},{59,56,45}},{33,{16,20,14},{61,47,51}},{34,{6,8,16},{49,53,64}},{35,{25,18,20},{44,43,49}},{36,{14,23,8},{37,47,57}},{37,{7,25,23},{49,53,36}},{38,{11,22,20},{35,47,62}},{39,{12,20,18},{61,49,40}},{40,{13,10,17},{43,49,60}},{41,{10,25,12},{61,47,54}},{42,{13,23,22},{37,50,47}},{43,{22,14,14},{63,65,38}},{44,{13,18,20},{59,61,65}},{45,{16,15,18},{49,46,47}},{46,{23,11,21},{57,52,49}},{47,{16,25,14},{61,37,65}},{48,{15,20,19},{49,47,38}},{49,{19,6,12},{65,57,58}},{50,{10,23,17},{38,41,37}},{51,{10,20,11},{38,41,55}},{52,{17,14,20},{47,59,64}},{53,{12,25,6},{53,51,65}},{54,{24,25,13},{46,41,61}},{55,{23,6,15},{63,40,43}},{56,{21,7,11},{40,61,49}},{57,{9,21,21},{61,46,63}},{58,{17,22,10},{36,53,49}},{59,{10,16,18},{47,49,65}},{60,{21,16,20},{51,47,43}},{61,{16,11,23},{61,56,65}},{62,{23,24,24},{47,63,53}},{63,{19,18,8},{51,59,46}},{64,{15,15,12},{59,58,37}},{65,{13,22,9},{38,49,59}},{66,{18,7,10},{61,41,53}},{67,{6,12,25},{59,41,46}},{68,{11,17,18},{59,62,65}},{69,{21,22,23},{65,63,61}},{70,{18,17,20},{41,58,45}},{71,{25,17,19},{49,43,46}},{72,{20,13,23},{63,41,53}},{73,{23,14,23},{49,47,50}},{74,{11,15,14},{40,53,59}},{75,{24,10,21},{38,65,49}},{76,{13,5,6},{35,62,51}},{77,{15,19,7},{38,43,63}},{78,{17,5,22},{43,37,52}},{79,{10,10,5},{62,65,47}},{80,{7,22,19},{51,55,62}},{81,{9,17,12},{48,43,35}},{82,{13,6,20},{46,61,43}},{83,{18,15,12},{58,39,59}},{84,{19,25,18},{47,53,42}},{85,{10,25,17},{47,38,39}},{86,{10,18,24},{63,38,41}},{87,{21,16,15},{63,53,59}},{88,{5,18,6},{45,58,59}},{89,{8,7,8},{53,45,56}},{90,{17,12,23},{43,58,57}},{91,{25,24,6},{61,41,53}},{92,{16,10,24},{41,47,51}},{93,{21,9,7},{58,63,53}},{94,{17,23,15},{49,43,64}},{95,{20,14,13},{47,41,37}},{96,{7,21,23},{39,61,62}},{97,{17,13,11},{41,47,58}},{98,{12,20,14},{59,37,54}},{99,{7,11,10},{37,65,38}},{100,{16,18,11},{63,47,64}},{101,{20,8,12},{38,41,65}},{102,{12,7,20},{62,37,49}}}
10. {{variant,{polynomial,modulus}},{1,{10+9 x+11 x^2+7 x^3+x^4,19}},{2,{1+2 x+15 x^2+3 x^3+x^4,19}},{3,{1+2 x^2+8 x^3+x^4,19}},{4,{14+15 x+16 x^2+28 x^3+x^4,29}},{5,{2+19 x+8 x^2+16 x^3+x^4,23}},{6,{10+6 x+9 x^3+x^4,11}},{7,{2+10 x+14 x^2+x^3+x^4,17}},{8,{3+25 x+26 x^2+11 x^3+x^4,29}},{9,{11+24 x+12 x^2+18 x^3+x^4,29}},{10,{9+4 x+20 x^2+10 x^3+x^4,23}},{11,{6+5 x+11 x^2+3 x^3+x^4,13}},{12,{2+x+21 x^2+6 x^3+x^4,23}},{13,{6+10 x+11 x^2+11 x^3+x^4,13}},{14,{2+5 x+15 x^2+2 x^3+x^4,23}},{15,{5+17 x^2+15 x^3+x^4,19}},{16,{9+8 x+4 x^2+7 x^3+x^4,17}},{17,{10+9 x+14 x^2+12 x^3+x^4,23}},{18,{2+6 x+8 x^2+15 x^3+x^4,17}},{19,{1+22 x+18 x^2+10 x^3+x^4,29}},{20,{7+3 x+6 x^2+2 x^3+x^4,11}},{21,{13+9 x+18 x^2+16 x^3+x^4,19}},{22,{13+14 x+9 x^2+5 x^3+x^4,19}},{23,{10+6 x+10 x^2+17 x^3+x^4,19}},{24,{4+11 x+17 x^2+16 x^3+x^4,19}},{25,{8+14 x+15 x^2+4 x^3+x^4,17}},{26,{2+11 x+7 x^2+8 x^3+x^4,19}},{27,{17+2 x+17 x^2+13 x^3+x^4,19}},{28,{12+21 x+7 x^2+5 x^3+x^4,23}},{29,{1+2 x+7 x^3+x^4,11}},{30,{23+10 x+19 x^2+22 x^3+x^4,29}},{31,{16+14 x+13 x^2+6 x^3+x^4,19}},{32,{3+x+5 x^2+6 x^3+x^4,13}},{33,{8+7 x+8 x^2+x^3+x^4,11}},{34,{2+10 x+2 x^2+7 x^3+x^4,11}},{35,{10+9 x+5 x^2+9 x^3+x^4,17}},{36,{1+4 x+7 x^2+x^4,11}},{37,{9+9 x+9 x^2+5 x^3+x^4,17}},{38,{5+23 x+x^2+24 x^3+x^4,29}},{39,{10+15 x+13 x^2+x^3+x^4,29}},{40,{7+6 x+8 x^2+15 x^3+x^4,17}},{41,{5+5 x+6 x^2+5 x^3+x^4,11}},{42,{11+9 x+x^2+3 x^3+x^4,19}},{43,{1+25 x+6 x^2+26 x^3+x^4,29}},{44,{10+4 x+x^2+5 x^3+x^4,13}},{45,{4+10 x+2 x^2+2 x^3+x^4,11}},{46,{3+7 x+8 x^2+3 x^3+x^4,11}},{47,{28+7 x+8 x^2+23 x^3+x^4,29}},{48,{14+18 x+10 x^2+x^3+x^4,19}},{49,{22+17 x+21 x^2+3 x^3+x^4,23}},{50,{14+3 x+8 x^2+2 x^3+x^4,23}},{51,{7+4 x+x^2+8 x^3+x^4,11}},{52,{11+4 x+5 x^2+9 x^3+x^4,13}},{53,{13+4 x+4 x^2+4 x^3+x^4,17}},{54,{7+6 x+2 x^2+9 x^3+x^4,11}},{55,{8+12 x+11 x^2+3 x^3+x^4,17}},{56,{22+20 x+8 x^3+x^4,29}},{57,{13+26 x+19 x^2+13 x^3+x^4,29}},{58,{11+16 x+17 x^2+12 x^3+x^4,19}},{59,{2+14 x+7 x^2+5 x^3+x^4,19}},{60,{10+6 x+6 x^2+8 x^3+x^4,11}},{61,{23+21 x+26 x^2+2 x^3+x^4,29}},{62,{7+9 x+3 x^2+3 x^3+x^4,11}},{63,{18+6 x+13 x^2+2 x^3+x^4,19}},{64,{15+7 x+22 x^2+16 x^3+x^4,29}},{65,{9+6 x+7 x^2+4 x^3+x^4,13}},{66,{9+10 x+8 x^2+5 x^3+x^4,11}},{67,{3+6 x+3 x^2+6 x^3+x^4,11}},{68,{4+6 x+16 x^2+7 x^3+x^4,19}},{69,{10+2 x+4 x^2+8 x^3+x^4,11}},{70,{3+8 x+x^2+6 x^3+x^4,19}},{71,{12+3 x+x^2+x^3+x^4,23}},{72,{6+9 x+18 x^3+x^4,23}},{73,{6+x+3 x^2+x^4,13}},{74,{20+22 x+3 x^2+x^4,23}},{75,{8+2 x+5 x^2+6 x^3+x^4,11}},{76,{7+9 x+2 x^2+15 x^3+x^4,29}},{77,{4+12 x+12 x^2+6 x^3+x^4,13}},{78,{9+8 x+x^2+7 x^3+x^4,13}},{79,{16+3 x+17 x^2+x^3+x^4,19}},{80,{5+7 x+6 x^2+6 x^3+x^4,19}},{81,{4+5 x+5 x^2+4 x^3+x^4,11}},{82,{8+3 x+x^2+4 x^3+x^4,11}},{83,{25+15 x+5 x^2+12 x^3+x^4,29}},{84,{4+8 x+8 x^2+x^3+x^4,11}},{85,{10+8 x+8 x^2+6 x^3+x^4,13}},{86,{21+22 x+24 x^2+25 x^3+x^4,29}},{87,{2+18 x+6 x^2+7 x^3+x^4,19}},{88,{10+10 x+16 x^2+5 x^3+x^4,19}},{89,{18+8 x+20 x^2+14 x^3+x^4,23}},{90,{2+x+8 x^2+8 x^3+x^4,11}},{91,{3+6 x+7 x^2+8 x^3+x^4,13}},{92,{13+6 x+9 x^3+x^4,23}},{93,{9+17 x+21 x^2+5 x^3+x^4,23}},{94,{3+11 x+4 x^3+x^4,13}},{95,{4+6 x+7 x^2+5 x^3+x^4,23}},{96,{3+4 x^2+9 x^3+x^4,17}},{97,{9+8 x+4 x^2+3 x^3+x^4,11}},{98,{10+11 x+20 x^2+18 x^3+x^4,23}},{99,{4+12 x+15 x^2+4 x^3+x^4,17}},{100,{12+5 x+7 x^2+13 x^3+x^4,17}},{101,{17+x+4 x^2+4 x^3+x^4,29}},{102,{5+9 x+2 x^2+2 x^3+x^4,13}}}
11. Поднять одно из решений mod p^3
12. Вычислить наилучшее приближение с точностью до 10^{-5}  
     {{variant,{A,B,C,D}},{1,{9,10,6,23}},{2,{7,7,5,17}},{3,{5,8,5,19}},{4,{9,6,8,19}},{5,{8,10,5,13}},{6,{7,6,10,23}},{7,{5,7,6,17}},{8,{8,7,7,13}},{9,{9,6,5,13}},{10,{9,7,10,11}},{11,{5,8,9,29}},{12,{5,6,7,23}},{13,{8,9,8,11}},{14,{7,5,5,23}},{15,{5,8,9,23}},{16,{10,7,8,11}},{17,{9,10,9,13}},{18,{9,8,9,13}},{19,{9,8,8,29}},{20,{10,5,9,17}},{21,{10,7,6,13}},{22,{5,6,9,13}},{23,{9,5,10,29}},{24,{8,10,7,13}},{25,{10,9,5,23}},{26,{7,5,7,19}},{27,{5,9,7,19}},{28,{8,6,5,23}},{29,{5,5,7,19}},{30,{10,10,7,23}},{31,{9,5,5,13}},{32,{8,5,6,11}},{33,{5,10,7,19}},{34,{5,6,8,17}},{35,{9,7,8,29}},{36,{5,9,5,19}},{37,{9,10,10,13}},{38,{6,7,9,13}},{39,{8,9,10,17}},{40,{9,6,10,19}},{41,{7,10,8,17}},{42,{7,7,8,29}},{43,{9,10,9,23}},{44,{5,9,8,17}},{45,{8,7,6,13}},{46,{10,5,6,23}},{47,{9,9,7,11}},{48,{9,10,6,23}},{49,{9,10,7,23}},{50,{6,9,10,23}},{51,{9,9,7,19}},{52,{5,6,10,29}},{53,{9,9,7,13}},{54,{8,10,7,17}},{55,{5,9,10,23}},{56,{10,8,7,13}},{57,{7,10,10,23}},{58,{9,7,7,11}},{59,{9,5,10,17}},{60,{8,9,5,23}},{61,{8,9,9,23}},{62,{6,9,7,19}},{63,{9,10,10,19}},{64,{9,10,8,17}},{65,{8,8,7,19}},{66,{8,7,10,19}},{67,{9,5,5,17}},{68,{7,9,5,23}},{69,{7,10,8,23}},{70,{10,5,7,11}},{71,{10,7,7,19}},{72,{5,9,5,29}},{73,{9,7,6,11}},{74,{8,7,10,19}},{75,{6,7,8,13}},{76,{9,10,7,17}},{77,{10,5,9,11}},{78,{7,6,6,17}},{79,{5,7,9,11}},{80,{10,10,7,19}},{81,{8,5,8,19}},{82,{5,9,5,19}},{83,{7,8,5,13}},{84,{7,10,7,13}},{85,{7,9,9,13}},{86,{10,6,7,23}},{87,{10,9,10,11}},{88,{7,6,5,11}},{89,{5,9,9,23}},{90,{9,10,9,17}},{91,{7,10,8,13}},{92,{9,10,10,29}},{93,{6,5,10,29}},{94,{9,10,10,19}},{95,{7,10,7,11}},{96,{5,10,7,11}},{97,{9,10,5,13}},{98,{8,5,7,11}},{99,{9,5,10,13}},{100,{9,5,7,23}},{101,{5,9,9,17}},{102,{8,9,6,11}}}