

הוכחנו שהם שונים, שים לב! נראה $n = p^2$ $p = 3$ $p = 5$ $p = 7$ $p = 11$ $p = 13$ $p = 17$ $p = 19$ $p = 23$ $p = 29$ $p = 31$ $p = 37$ $p = 41$ $p = 43$ $p = 47$ $p = 53$ $p = 59$ $p = 61$ $p = 67$ $p = 71$ $p = 73$ $p = 79$ $p = 83$ $p = 89$ $p = 97$ $p = 101$ $p = 103$ $p = 107$ $p = 109$ $p = 113$ $p = 127$ $p = 131$ $p = 137$ $p = 139$ $p = 143$ $p = 149$ $p = 151$ $p = 157$ $p = 163$ $p = 167$ $p = 173$ $p = 179$ $p = 181$ $p = 187$ $p = 191$ $p = 193$ $p = 197$ $p = 199$ $p = 211$ $p = 223$ $p = 227$ $p = 229$ $p = 233$ $p = 239$ $p = 241$ $p = 247$ $p = 251$ $p = 257$ $p = 263$ $p = 269$ $p = 271$ $p = 277$ $p = 281$ $p = 283$ $p = 287$ $p = 293$ $p = 299$ $p = 307$ $p = 311$ $p = 313$ $p = 317$ $p = 331$ $p = 337$ $p = 347$ $p = 349$ $p = 353$ $p = 359$ $p = 367$ $p = 373$ $p = 379$ $p = 383$ $p = 389$ $p = 397$ $p = 401$ $p = 409$ $p = 419$ $p = 421$ $p = 431$ $p = 433$ $p = 437$ $p = 439$ $p = 443$ $p = 449$ $p = 457$ $p = 461$ $p = 463$ $p = 467$ $p = 473$ $p = 479$ $p = 487$ $p = 491$ $p = 499$ $p = 503$ $p = 509$ $p = 521$ $p = 523$ $p = 527$ $p = 539$ $p = 541$ $p = 547$ $p = 557$ $p = 563$ $p = 569$ $p = 571$ $p = 577$ $p = 581$ $p = 587$ $p = 593$ $p = 599$ $p = 601$ $p = 607$ $p = 613$ $p = 617$ $p = 619$ $p = 623$ $p = 629$ $p = 631$ $p = 637$ $p = 641$ $p = 643$ $p = 647$ $p = 653$ $p = 659$ $p = 661$ $p = 667$ $p = 671$ $p = 673$ $p = 677$ $p = 683$ $p = 689$ $p = 691$ $p = 697$ $p = 701$ $p = 703$ $p = 707$ $p = 713$ $p = 719$ $p = 727$ $p = 733$ $p = 737$ $p = 743$ $p = 749$ $p = 751$ $p = 757$ $p = 761$ $p = 763$ $p = 767$ $p = 773$ $p = 779$ $p = 781$ $p = 787$ $p = 793$ $p = 797$ $p = 803$ $p = 809$ $p = 811$ $p = 817$ $p = 821$ $p = 823$ $p = 827$ $p = 829$ $p = 833$ $p = 839$ $p = 841$ $p = 847$ $p = 853$ $p = 857$ $p = 859$ $p = 863$ $p = 869$ $p = 871$ $p = 877$ $p = 881$ $p = 883$ $p = 887$ $p = 893$ $p = 897$ $p = 901$ $p = 903$ $p = 907$ $p = 911$ $p = 913$ $p = 917$ $p = 919$ $p = 923$ $p = 929$ $p = 931$ $p = 937$ $p = 941$ $p = 943$ $p = 947$ $p = 953$ $p = 959$ $p = 961$ $p = 967$ $p = 971$ $p = 973$ $p = 977$ $p = 983$ $p = 989$ $p = 991$ $p = 993$ $p = 997$ $p = 1003$ $p = 1009$ $p = 1013$ $p = 1017$ $p = 1019$ $p = 1021$ $p = 1023$ $p = 1027$ $p = 1029$ $p = 1033$ $p = 1039$ $p = 1041$ $p = 1043$ $p = 1047$ $p = 1053$ $p = 1057$ $p = 1059$ $p = 1063$ $p = 1067$ $p = 1069$ $p = 1073$ $p = 1079$ $p = 1081$ $p = 1087$ $p = 1093$ $p = 1097$ $p = 1103$ $p = 1109$ $p = 1113$ $p = 1117$ $p = 1119$ $p = 1121$ $p = 1123$ $p = 1127$ $p = 1129$ $p = 1133$ $p = 1139$ $p = 1141$ $p = 1143$ $p = 1147$ $p = 1153$ $p = 1157$ $p = 1159$ $p = 1163$ $p = 1167$ $p = 1169$ $p = 1173$ $p = 1179$ $p = 1181$ $p = 1187$ $p = 1193$ $p = 1197$ $p = 1201$ $p = 1203$ $p = 1207$ $p = 1211$ $p = 1213$ $p = 1217$ $p = 1219$ $p = 1223$ $p = 1229$ $p = 1231$ $p = 1237$ $p = 1241$ $p = 1243$ $p = 1247$ $p = 1253$ $p = 1257$ $p = 1259$ $p = 1263$ $p = 1267$ $p = 1269$ $p = 1273$ $p = 1279$ $p = 1281$ $p = 1287$ $p = 1293$ $p = 1297$ $p = 1301$ $p = 1303$ $p = 1307$ $p = 1311$ $p = 1313$ $p = 1317$ $p = 1319$ $p = 1321$ $p = 1323$ $p = 1327$ $p = 1329$ $p = 1333$ $p = 1339$ $p = 1341$ $p = 1343$ $p = 1347$ $p = 1353$ $p = 1357$ $p = 1359$ $p = 1363$ $p = 1367$ $p = 1369$ $p = 1373$ $p = 1379$ $p = 1381$ $p = 1387$ $p = 1393$ $p = 1397$ $p = 1401$ $p = 1403$ $p = 1407$ $p = 1411$ $p = 1413$ $p = 1417$ $p = 1419$ $p = 1423$ $p = 1429$ $p = 1431$ $p = 1433$ $p = 1437$ $p = 1441$ $p = 1443$ $p = 1447$ $p = 1453$ $p = 1457$ $p = 1459$ $p = 1463$ $p = 1467$ $p = 1469$ $p = 1473$ $p = 1479$ $p = 1481$ $p = 1483$ $p = 1487$ $p = 1493$ $p = 1497$ $p = 1501$ $p = 1503$ $p = 1507$ $p = 1511$ $p = 1513$ $p = 1517$ $p = 1519$ $p = 1521$ $p = 1523$ $p = 1527$ $p = 1529$ $p = 1533$ $p = 1539$ $p = 1541$ $p = 1543$ $p = 1547$ $p = 1553$ $p = 1557$ $p = 1559$ $p = 1563$ $p = 1567$ $p = 1569$ $p = 1573$ $p = 1579$ $p = 1581$ $p = 1583$ $p = 1587$ $p = 1593$ $p = 1597$ $p = 1601$ $p = 1603$ $p = 1607$ $p = 1611$ $p = 1613$ $p = 1617$ $p = 1619$ $p = 1621$ $p = 1623$ $p = 1627$ $p = 1629$ $p = 1633$ $p = 1639$ $p = 1641$ $p = 1643$ $p = 1647$ $p = 1653$ $p = 1657$ $p = 1659$ $p = 1663$ $p = 1667$ $p = 1669$ $p = 1673$ $p = 1679$ $p = 1681$ $p = 1683$ $p = 1687$ $p = 1693$ $p = 1697$ $p = 1701$ $p = 1703$ $p = 1707$ $p = 1711$ $p = 1713$ $p = 1717$ $p = 1719$ $p = 1721$ $p = 1723$ $p = 1727$ $p = 1729$ $p = 1733$ $p = 1739$ $p = 1741$ $p = 1743$ $p = 1747$ $p = 1753$ $p = 1757$ $p = 1759$ $p = 1763$ $p = 1767$ $p = 1769$ $p = 1773$ $p = 1779$ $p = 1781$ $p = 1783$ $p = 1787$ $p = 1793$ $p = 1797$ $p = 1801$ $p = 1803$ $p = 1807$ $p = 1811$ $p = 1813$ $p = 1817$ $p = 1819$ $p = 1821$ $p = 1823$ $p = 1827$ $p = 1829$ $p = 1833$ $p = 1839$ $p = 1841$ $p = 1843$ $p = 1847$ $p = 1853$ $p = 1857$ $p = 1859$ $p = 1863$ $p = 1867$ $p = 1869$ $p = 1873$ $p = 1879$ $p = 1881$ $p = 1883$ $p = 1887$ $p = 1893$ $p = 1897$ $p = 1901$ $p = 1903$ $p = 1907$ $p = 1911$ $p = 1913$ $p = 1917$ $p = 1919$ $p = 1921$ $p = 1923$ $p = 1927$ $p = 1929$ $p = 1933$ $p = 1939$ $p = 1941$ $p = 1943$ $p = 1947$ $p = 1953$ $p = 1957$ $p = 1959$ $p = 1963$ $p = 1967$ $p = 1969$ $p = 1973$ $p = 1979$ $p = 1981$ $p = 1983$ $p = 1987$ $p = 1993$ $p = 1997$ $p = 2003$ $p = 2009$ $p = 2013$ $p = 2017$ $p = 2019$ $p = 2021$ $p = 2023$ $p = 2027$ $p = 2029$ $p = 2033$ $p = 2039$ $p = 2041$ $p = 2043$ $p = 2047$ $p = 2053$ $p = 2057$ $p = 2059$ $p = 2063$ $p = 2067$ $p = 2069$ $p = 2073$ $p = 2079$ $p = 2081$ $p = 2083$ $p = 2087$ $p = 2093$ $p = 2097$ $p = 2101$ $p = 2103$ $p = 2107$ $p = 2111$ $p = 2113$ $p = 2117$ $p = 2119$ $p = 2121$ $p = 2123$ $p = 2127$ $p = 2129$ $p = 2133$ $p = 2139$ $p = 2141$ $p = 2143$ $p = 2147$ $p = 2153$ $p = 2157$ $p = 2159$ $p = 2163$ $p = 2167$ $p = 2169$ $p = 2173$ $p = 2179$ $p = 2181$ $p = 2183$ $p = 2187$ $p = 2193$ $p = 2197$ $p = 2201$ $p = 2203$ $p = 2207$ $p = 2211$ $p = 2213$ $p = 2217$ $p = 2219$ $p = 2221$ $p = 2223$ $p = 2227$ $p = 2229$ $p = 2233$ $p = 2239$ $p = 2241$ $p = 2243$ $p = 2247$ $p = 2253$ $p = 2257$ $p = 2259$ $p = 2263$ $p = 2267$ $p = 2269$ $p = 2273$ $p = 2279$ $p = 2281$ $p = 2283$ $p = 2287$ $p = 2293$ $p = 2297$ $p = 2301$ $p = 2303$ $p = 2307$ $p = 2311$ $p = 2313$ $p = 2317$ $p = 2319$ $p = 2321$ $p = 2323$ $p = 2327$ $p = 2329$ $p = 2333$ $p = 2339$ $p = 2341$ $p = 2343$ $p = 2347$ $p = 2353$ $p = 2357$ $p = 2359$ $p = 2363$ $p = 2367$ $p = 2369$ $p = 2373$ $p = 2379$ $p = 2381$ $p = 2383$ $p = 2387$ $p = 2393$ $p = 2397$ $p = 2401$ $p = 2403$ $p = 2407$ $p = 2411$ $p = 2413$ $p = 2417$ $p = 2419$ $p = 2421$ $p = 2423$ $p = 2427$ $p = 2429$ $p = 2433$ $p = 2439$ $p = 2441$ $p = 2443$ $p = 2447$ $p = 2453$ $p = 2457$ $p = 2459$ $p = 2463$ $p = 2467$ $p = 2469$ $p = 2473$ $p = 2479$ $p = 2481$ $p = 2483$ $p = 2487$ $p = 2493$ $p = 2497$ $p = 2501$ $p = 2503$ $p = 2507$ $p = 2511$ $p = 2513$ $p = 2517$ $p = 2519$ $p = 2521$ $p = 2523$ $p = 2527$ $p = 2529$ $p = 2533$ $p = 2539$ $p = 2541$ $p = 2543$ $p = 2547$ $p = 2553$ $p = 2557$ $p = 2559$ $p = 2563$ $p = 2567$ $p = 2569$ $p = 2573$ $p = 2579$ $p = 2581$ $p = 2583$ $p = 2587$ $p = 2593$ $p = 2597$ $p = 2601$ $p = 2603$ $p = 2607$ $p = 2611$ $p = 2613$ $p = 2617$ $p = 2619$ $p = 2621$ $p = 2623$ $p = 2627$ $p = 2629$ $p = 2633$ $p = 2639$ $p = 2641$ $p = 2643$ $p = 2647$ $p = 2653$ $p = 2657$ $p = 2659$ $p = 2663$ $p = 2667$ $p = 2669$ $p = 2673$ $p = 2679$ $p = 2681$ $p = 2683$ $p = 2687$ $p = 2693$ $p = 2697$ $p = 2701$ $p = 2703$ $p = 2707$ $p = 2711$ $p = 2713$ $p = 2717$ $p = 2719$ $p = 2721$ $p = 2723$ $p = 2727$ $p = 2729$ $p = 2733$ $p = 2739$ $p = 2741$ $p = 2743$ $p = 2747$ $p = 2753$ $p = 2757$ $p = 2759$ $p = 2763$ $p = 2767$ $p = 2769$ $p = 2773$ $p = 2779$ $p = 2781$ $p = 2783$ $p = 2787$ $p = 2793$ $p = 2797$ $p = 2801$ $p = 2803$ $p = 2807$ $p = 2811$ $p = 2813$ $p = 2817$ $p = 2819$ $p = 2821$ $p = 2823$ $p = 2827$ $p = 2829$ $p = 2833$ $p = 2839$ $p = 2841$ $p = 2843$ $p = 2847$ $p = 2853$ $p = 2857$ $p = 2859$ $p = 2863$ $p = 2867$ $p = 2869$ $p = 2873$ $p = 2879$ $p = 2881$ $p = 2883$ $p = 2887$ $p = 2893$ $p = 2897$ $p = 2901$ $p = 2903$ $p = 2907$ $p = 2911$ $p = 2913$ $p = 2917$ $p = 2919$ $p = 2921$ $p = 2923$ $p = 2927$ $p = 2929$ $p = 2933$ $p = 2939$ $p = 2941$ $p = 2943$ $p = 2947$ $p = 2953$ $p = 2957$ $p = 2959$ $p = 2963$ $p = 2967$ $p = 2969$ $p = 2973$ $p = 2979$ $p = 2981$ $p = 2983$ $p = 2987$ $p = 2993$ $p = 2997$ $p = 3001$ $p = 3003$ $p = 3007$ $p = 3011$ $p = 3013$ $p = 3017$ $p = 3019$ $p = 3021$ $p = 3023$ $p = 3027$ $p = 3029$ $p = 3033$ $p = 3039$ $p = 3041$ $p = 3043$ $p = 3047$ $p = 3053$ $p = 3057$ $p = 3059$ $p = 3063$ $p = 3067$ $p = 3069$ $p = 3073$ $p = 3079$ $p = 3081$ $p = 3083$ $p = 3087$ $p = 3093$ $p = 3097$ $p = 3101$ $p = 3103$ $p = 3107$ $p = 3111$ $p = 3113$ $p = 3117$ $p = 3119$ $p = 3121$ $p = 3123$ $p = 3127$ $p = 3129$ $p = 3133$ $p = 3139$ $p = 3141$ $p = 3143$ $p = 3147$ $p = 3153$ $p = 3157$ $p = 3159$ $p = 3163$ $p = 3167$ $p = 3169$ $p = 3173$ $p = 3179$ $p = 3181$ $p = 3183$ $p = 3187$ $p = 3193$ $p = 3197$ $p = 3201$ $p = 3203$ $p = 3207$ $p = 3211$ $p = 3213$ $p = 3217$ $p = 3219$ $p = 3221$ $p = 3223$ $p = 3227$ $p = 3229$ $p = 3233$ $p = 3239$ $p = 3241$ $p = 3243$ $p = 3247$ $p = 3253$ $p = 3257$ $p = 3259$ $p = 3263$ $p = 3267$ $p = 3269$ $p = 3273$ $p = 3279$ $p = 3281$ $p = 3283$ $p = 3287$ $p = 3293$ $p = 3297$ $p = 3301$ $p = 3303$ $p = 3307$ $p = 3311$ $p = 3313$ $p = 3317$ $p = 3319$ $p = 3321$ $p = 3323$ $p = 3327$ $p = 3329$ $p = 3333$ $p = 3339$ $p = 3341$ $p = 3343$ $p = 3347$ $p = 3353$ $p = 3357$ $p = 3359$ $p = 3363$ $p = 3367$ $p = 3369$ $p = 3373$ $p = 3379$ $p = 3381$ $p = 3383$ $p = 3387$ $p = 3393$ $p = 3397$ $p = 3401$ $p = 3403$ $p = 3407$ $p = 3411$ $p = 3413$ $p = 3417$ $p = 3419$ $p = 3421$ $p = 3423$ $p = 3427$ $p = 3429$ $p = 3433$ $p = 3439$ $p = 3441$ $p = 3443$ $p = 3447$ $p = 3453$ $p = 3457$ $p = 3459$ $p = 3463$ $p = 3467$ $p = 3469$ $p = 3473$ $p = 3479$ $p = 3481$ $p = 3483$ $p = 3487$ $p = 3493$ $p = 3497$ $p = 3501$ $p = 3503$ $p = 3507$ $p = 3511$ $p = 3513$ $p = 3517$ $p = 3519$ $p = 3521$ $p = 3523$ $p = 3527$ $p = 3529$ $p = 3533$ $p = 3539$ $p = 3541$ $p = 3543$ $p = 3547$ $p = 3553$ $p = 3557$ $p = 3559$ $p = 3563$ $p = 3567$ $p = 3569$ $p = 3573$ $p = 3579$ $p = 3581$ $p = 3583$ $p = 3587$ $p = 3593$ $p = 3597$ $p = 3601$ $p = 3603$ $p = 3607$ $p = 3611$ $p = 3613$ $p = 3617$ $p = 3619$ $p = 3621$ $p = 3623$ $p = 3627$ $p = 3629$ $p = 3633$ $p = 3639$ $p = 3641$ $p = 3643$ $p = 3647$ $p = 3653$ $p = 3657$ $p = 3659$ $p = 3663$ $p = 3667$ $p = 3669$ $p = 3673$ $p = 3679$ $p = 3681$ $p = 3683$ $p = 3687$ $p = 3693$ $p = 3697$ $p = 3701$ $p = 3703$ $p = 3707$ $p = 3711$ $p = 3713$ $p = 3717$ $p = 3719$ $p = 3721$ $p = 3723$ $p = 3727$ $p = 3729$ $p = 3733$ $p = 3739$ $p = 3741$ $p = 3743$ $p = 3747$ $p = 3753$ $p = 3757$ $p = 3759$ $p = 3763$ $p = 3767$ $p = 3769$ $p = 3773$ $p = 3779$ $p = 3781$ $p = 3783$ $p = 3787$ $p = 3793$ $p = 3797$ $p = 3801$ $p = 3803$ $p = 3807$ $p = 3811$ $p = 3813$ $p = 3817$ $p = 3819$ $p = 3821$ $p = 3823$ $p = 3827$ $p = 3829$ $p = 3833$ $p = 3839$ $p = 3841$ $p = 3843$ $p = 3847$ $p = 3853$ $p = 3857$ $p = 3859$ $p = 3863$ $p = 3867$ $p = 3869$ $p = 3873$ $p = 3879$ $p = 3881$ $p = 3883$ $p = 3887$ $p = 3893$ $p = 3897$ $p = 3901$ $p = 3903$ $p = 3907$ $p = 3911$ $p = 3913$ $p = 3917$ $p = 3919$ $p = 392$

$$g^{p^{j-2}(p-1)} \equiv 1 \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 \pmod{p^{j-1}}$$

$$g^{p^{j-2}(p-1)} \equiv 1 \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 \pmod{p^{j-1}}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 \pmod{p^{j-1}}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$k=0 \Rightarrow 1$$

$$k=1 \Rightarrow c \cdot p^{j-1}$$

$$k \geq 2 \Rightarrow \frac{(p-1)p}{2} \cdot c^2 \cdot p^{2j-4} = \frac{p-1}{2} \cdot c^2 \cdot p^{2j-3}$$

$$k \geq 3 \Rightarrow p^3(j-2)$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$g^{p^{j-2}(p-1)} \equiv 1 + c p^{j-2} \pmod{p^j}$$

$$j \geq 3 \Leftrightarrow 3(j-2) \geq j$$

$$j \geq 3 \Leftrightarrow 2j \geq j$$