FEMI- OPADERE ADEDAMOLA .B.

RUN/CMP/14/5755

CMP 472 ASSIGNMENTS

PROF. AYENI

SOLUTION TO ASSIGNMENT

|  |  |  |  |
| --- | --- | --- | --- |
| n | Year | Population | Change in Population |
| 0 | 1790 | 3929000 | - |
| 1 | 1800 | 5308000 | 1379000 |
| 2 | 1810 | 7240000 | 1932000 |
| 3 | 1820 | 9638000 | 2398000 |
| 4 | 1830 | 12866000 | 3228000 |
| 5 | 1840 | 17069000 | 4203000 |
| 6 | 1850 | 23192000 | 6123000 |
| 7 | 1860 | 31443000 | 8251000 |
| 8 | 1870 | 38558000 | 7115000 |
| 9 | 1880 | 50156000 | 11598000 |
| 10 | 1890 | 62948000 | 12792000 |
| 11 | 1900 | 75995000 | 13047000 |
| 12 | 1910 | 91972000 | 15977000 |
| 13 | 1920 | 105711000 | 13739000 |
| 14 | 1930 | 122755000 | 17044000 |
| 15 | 1940 | 131669000 | 8914000 |
| 16 | 1950 | 150697000 | 19028000 |
| 17 | 1960 | 179323000 | 28626000 |
| 18 | 1970 | 203212000 | 23889000 |
| 19 | 1980 | 226505000 | 23293000 |
| 20 | 1990 | 248710000 | 22205000 |
| 21 | 2000 | 281416000 | 32706000 |

The model is

*Where n=0-21*

*K α*

We plot against year to calculate the slope and get k

Graph

year

Graph of change in population against n

k(slope) =

k = (12792000– 11598000) / (1970 – 1880)

k = 1,194,000

p1 = 5,308,000

p2 = p1 + 1,194,000 \* 1 (n=2)

p2= 5,308,000 + 1,194,000

p2 = 6,502,000

p3 = p2 + 1,194,000 \*2(n=3)

p3 = 6,502,000 + 2,388,000

p3 = 8,890,000

p4 = p3 + 1,194,000 \* 3(n=4)

p4 = 8,890,000 + 3,582,000

p4 = 12,472,000

p5 = p4 + 1,194,000 \* 4

p5 = 12,472,000 +4,776,000

p5 = 17,248,000

p6 = p5 + 1,194,000 \* 5

p6 = 17,248,000 + 5,970,000

p6 = 23,218,000

p7 = p6 + 1,194,000 \* 6

p7 = 23,218,000 + 7,164,000

p7 = 30,382,000

p8 = p7 + 1,194,000 \* 7

p8 = 30,382,000 + 8,358,000

p8 = 38,740,000

p9 = p8 + 1,194,000 \* 8

p9 = 38,740,000 + 9,552,000

p9 = 48,292,000

p10 = p9 + 1,194,000 \* 9

p10 = 48,292,000 + 10,746,000

p10 =59,038,000

p11 = p10 + 1,194,000 \*10

p11 = 59,038,000 + 11,940,000

p11 = 70,978,000

p12 = p11 + 1,194,000 \* 11

p12 = 70,978,000 + 13,134,000

p12 = 84,112,000

p13 = p12 + 1,194,000 \* 12

p13 = 84,112,000 + 14,328,000

p13 = 98,440,000

p14 = p13 + 1,194,000 \* 13

p14 = 98,440,000 + 15,522,000

p14 = 113,962,000

p15 = 130,678,000

p16 = 148,588,000

p17 = 167,692,000

p18 = 187,990,000

p19 = 209,482,000

p20 = 232,168,000

p21 = 256,048,000