**8.3**

The following data show estimates of the population of Liberia in selected years between 1960 and 2010:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | 1960 | 1970 | 1980 | 1990 | 2000 | 2010 |
| **Population (millions)** | 1.1 | 1.4 | 1.9 | 2.1 | 2.8 | 4 |

Calculate the rate of growth of the population per year for 2010:

**a)** Using two-point backward difference formula.

**b)** Using three-point backward difference formula.

**c)** Using the slope in 2010 from part (b), apply the two-point central difference formula to extrapolate and predict the population for 2020.

a)

Two Point Backward Difference Formula:

Two Point Central Difference Formula: