Sujet n°8

SEQUENCES

Please do not write on the subject paper, and don't forget to give back the examination paper at the end of the test.

In 2008 in Burkina Faso, there were 2,380,000 children between 6 and 11 but only 1,740,000 attending school.

1. What is the percentage of children attending school in 2008 in Burkina Faso ? (round the answer to the nearest percent)

In that country, school-age population increases by about 3.5% per year and the population attending school increases by about 150,000 children per year.

2. Compute the number of children between 6 and 11 in 2009 in Burkina Faso.

3. Find a geometric sequence (p_n) for the school age population in Burkina Faso during the nth year after 2008. What is the value of p_0? Express p_n in terms of n.

4. Find an arithmetic sequence (s_n) for the population attending school in Burkina Faso during the nth year after 2008. What is the value of s_0? Express s_n in terms of n.

5. Calculate the percentage of children attending school in 2012 in Burkina Faso.

6. Use a calculator to find in which year at least 95% of the school age population in Burkina Faso will be attending school.