Corrigé Savoir S.2

Corrigé Entraînement n°1

1) $a_{n+1} = a_n + R = \boldsymbol{an - 4}$ et $b_{n+1} = \boldsymbol{b_n + \frac{1}{3}}$

2) $a_n = a_0 + nR = \boldsymbol{2 - 4n}$ et $b_n = b_p + (n-p)R = -\frac{2}{3} + \frac{1}{3}(n-3) = \boldsymbol{-\frac{5}{3} + \frac{n}{3}}$

3) $\boldsymbol{a_1} = a_0 - 4 = 2 - 4 = \boldsymbol{-2}$ *(récurrence)* $\boldsymbol{b_0} = -\frac{5}{3} + \frac{0}{3} = \boldsymbol{-\frac{5}{3}}$ *(récurrence)*

$\boldsymbol{a_{10}} = 2 - 4\times 10 = \boldsymbol{-38}$ *(explicite)* $\boldsymbol{b_{15}} = \boldsymbol{-\frac{5}{3}} + \frac{15}{3} = \boldsymbol{\frac{10}{3}}$ *(explicite)*

Corrigé Entraînement n°2

1) $\boldsymbol{x_{n+1}} = x_n + R = \boldsymbol{x_n - \frac{5}{2}}$ et $\boldsymbol{y_{n+1} = y_n + 6}$

2) $x_n = x_p + (n-p)R = 7 + (n-1)\times\frac{-5}{2} = \boldsymbol{-\frac{5n}{2} + \frac{19}{2}}$ et $\boldsymbol{y_n} = y_0 + nR = \boldsymbol{-12 + 6n}$

3) $\boldsymbol{x_0} = x_1 + \frac{5}{2} = \boldsymbol{\frac{19}{2}}$ (*(récurrence à l'envers… $x_1 = x_0 - \frac{5}{2}$)* $\boldsymbol{y_2} = -12 + 2\times 6 = \boldsymbol{0}$

$\boldsymbol{x_7} = -\frac{5\times 7}{2} + \frac{19}{2} = -\frac{16}{2} = \boldsymbol{-8}$ *(explicite)* $\boldsymbol{y_{41}} = -12 + 41\times 6 = \boldsymbol{234}$ *(explicite)*

Corrigé Entraînement n°3

1) $\boldsymbol{a_{n+1}} = a_n + R = \boldsymbol{a_n + \frac{1}{4}}$ et $\boldsymbol{b_{n+1} = b_n - 5}$

2) $a_n = a_0 + nR = \boldsymbol{-64 + \frac{n}{4}}$ et $b_n = b_p + (n-p)R = 101 - 5(n-2) = \boldsymbol{111 - 5n}$

3) $\boldsymbol{a_1} = -64 + \frac{1}{4} = \boldsymbol{-\frac{255}{4}}$ *(récurrence)* $\boldsymbol{b_0} = 111 - 5\times 0 = \boldsymbol{111}$ *(explicite)*

$\boldsymbol{a_8} = -64 + \frac{8}{4} = \boldsymbol{-62}$ *(explicite)* et $b_{45} = 111 - 5\times 45 = \boldsymbol{-114}$ *(explicite)*