

4.

$$\frac{n}{n^2+1}$$

$$\frac{4}{0^2+1} = 0$$

$$\frac{4}{1^2+1} = 2$$

$$\frac{4}{2^2+1} - \frac{4}{5} = 0,8$$

$$\frac{4}{3^2+1} - \frac{2}{5} = 0,4$$

$$\frac{4}{4^2+1} - \frac{4}{17} = 0,2$$

E2:

1. $U_0 = -2$

$$U_1 = -1$$

$$U_2 = 0$$

$$U_3 = 1$$

$$U_4 = 2$$

$$U_5 = 3$$

$$2 \times (-2) - 4 = -6$$

$$U_1 = 2 \times U_0 - 4 = 2 \times (-2) - 4 = -8$$

$$U_2 = 2 \times U_1 - 4 = 2 \times (-8) - 4 = -20$$

$$U_3 = 2 \times U_2 - 4 = 2 \times (-20) - 4 = -44$$

$$U_4 = 2 \times U_3 - 4 = 2 \times (-44) - 4 = -92$$

$$U_5 = 2 \times U_4 - 4 = 2 \times (-92) - 4 = -188$$

2. $V_1 = 2$

$$V_2 = 3$$

$$V_3 = 4$$

$$V_4 = 5$$

$$V_5 = 6$$

$$V_2 = (V_1)^2 - 7 = 1$$

$$V_3 = (V_2)^2 - 7 = 0$$

$$V_4 = (V_3)^2 - 7 = -7$$

$$V_5 = (V_4)^2 - 7 = 42$$

$$V_6 = (V_5)^2 - 7 = 175$$

3. $W_0 = 1$

$$W_1 = 2$$

$$W_2 = 3$$

$$W_3 = 4$$

$$W_4 = 5$$

$$W_5 = 6$$

$$W_1 = 2 \times (W_0) + 3 = 5$$

$$W_2 = 2 \times (W_1) + 3 = 13$$

$$W_3 = 2 \times (W_2) + 3 = 29$$

$$W_4 = 2 \times (W_3) + 3 = 61$$

$$W_5 = 2 \times (W_4) + 3 = 125$$

$$W_6 = 2 \times (W_5) + 3 = 253$$

$$U_n = 2n - 10$$

E3:

$$1. U_0 = 2 \times 0 - 10 = -10$$

$$U_2 = 2 \times 2 - 10 = -6$$

$$U_4 = 2 \times 4 - 10 = -2$$

$$U_6 = 2 \times 6 - 10 = 2$$

$$U_8 = 2 \times 8 - 10 = 6$$

$$U_{10} = 2 \times 10 - 10 = 10$$

$$U_{12} = 2 \times 12 - 10 = 14$$

$$U_1 = 2 \times 1 - 10 = -8$$

$$U_3 = 2 \times 3 - 10 = -4$$

$$U_5 = 2 \times 5 - 10 = 0$$

$$U_7 = 2 \times 7 - 10 = 4$$

$$U_9 = 2 \times 9 - 10 = 8$$

$$U_{11} = 2 \times 11 - 10 = 12$$

Le 10^{ème} termes est 10. Le 12^{ème} termes est 14

E4:

$$U_n = \frac{1}{n} + 1$$

$$U_0 = \frac{1}{0} + 1 = \text{undefined}$$

$$U_1 = \frac{1}{1} + 1 = 2$$

$$U_2 = \frac{1}{2} + 1 = 1,5$$

$$U_3 = \frac{1}{3} + 1 = 1,33$$

$$U_4 = \frac{1}{4} + 1 = 1,25$$

$$U_5 = \frac{1}{5} + 1 = 1,2$$

$$U_6 = \frac{1}{6} + 1 = 1,16$$

$$U_7 = \frac{1}{7} + 1 = 1,14$$

$$U_8 = \frac{1}{8} + 1 = 1,12$$

$$U_9 = \frac{1}{9} + 1 = 1,11$$

$$U_{10} = \frac{1}{10} + 1 = 1,1$$

$$U_{11} = \frac{1}{11} + 1 = 1,09$$

$$U_{12} = \frac{1}{12} + 1 = 1,08$$