Eléments propres de

1. $A_1 = \begin{pmatrix} 7 & 2 & -2 \\ 2 & 4 & -1 \\ -2 & -1 & 4 \end{pmatrix}$.*Rép* : $X_{A_1}(X) = (X-3)^2(X-9)$, $E_3(A_1) = Vect((1,-2,0),(0,1,1)), E_9(A_1) = Vect((2,1,-1))$.
2. $A_2 = \begin{pmatrix} 9 & 1 & 6 \\ -7 & 1 & -6 \\ -10 & -1 & -7 \end{pmatrix}$.*Rép* : $X_{A_2}(X) = (X-2)^2(X+1)$, $E_{-1}(A_2) = Vect((-2,2,3)), E_2(A_2) = Vect((-1,1,1))$.
3. $A_3 = \begin{pmatrix} -2 & -1 & 2 \\ -15 & -6 & 11 \\ -14 & -6 & 11 \end{pmatrix}$.*Rép* : $X_{A_3}(X) = (X-1)^3$, $E_1(A_3) = Vect((1,1,2))$.
4. $A_4 = \begin{pmatrix} 2 & 1 & 1 \\ 1 & 2 & 1 \\ 0 & 0 & 3 \end{pmatrix}$. *Rép* : $X_{A_4}(X) = (X-1)(X-3)^2$, $E_3(A_4) = Vect((1,1,0))$, $E_1(A_4) = Vect((-1,1,0))$.
5. $A_5 = \begin{pmatrix} -1 & 0 & 3 \\ -3 & 2 & 3 \\ 0 & 0 & 2 \end{pmatrix}$.*Rép* : $X_{A_5}(X) = (X+1)(X-2)^2$, $E_2(A_5) = Vect((1,0,1),(0,1,0)$, $E_{-1}(A_5) = Vect((1,1,0))$.
6. $A_6 = \begin{pmatrix} 0 & 0 & 4 \\ 1 & 0 & -8 \\ 0 & 1 & 5 \end{pmatrix}$.*Rép* : $X_{A_6}(X) = (X-1)(X-2)^2$, $E_2(A_6) = Vect((2,-3,1))$, $E_1(A_6) = Vect((4,-4,1))$.
7. $A_7 = \begin{pmatrix} 2 & 1 & 1 \\ 0 & 0 & -2 \\ 0 & 1 & 3 \end{pmatrix}$.*Rép* : $X_{A_7}(X) = (X-1)(X-2)^2$, $E_2(A_7) = Vect((1,0,0),(0,1,-1)$, $E_1(A_7) = Vect((-2,1,1))$.
8. $A_8 = \begin{pmatrix} -2 & 1 & 1 \\ 8 & 1 & -5 \\ 4 & 3 & -3 \end{pmatrix}$.*Rép* : $X_{A_8}(X) = X(X+2)^2$, $E_2(A_8) = Vect((1,-1,1))$, $E_0(A_8) = Vect((3,1,5))$.
9. $A_9 = \begin{pmatrix} 16 & 1 & 1 & 1 \\ 1 & 16 & 1 & 1 \\ 1 & 1 & 16 & 1 \\ 1 & 1 & 1 & 16 \end{pmatrix}$.*Rép* : $X_{A_9}(X) = (X-15)^3(X-19)$, $E_{15}(A_9) = Vect((1,-1,0,0),(1,0,-1,0),(1,0,0,-1))$, $E_{19}(A_9) = Vect((1,1,1,1))$.
10. $A_{10} = \begin{pmatrix} 1 & a & 0 \\ 0 & 0 & 1 \\ 0 & 1 & 0 \end{pmatrix}$.