

In[1]:= **polys** = {2 x1 + 3 x2 + 6 x1^2 + 6 x2^2, x1 - x2 + 7 x2^2}

Out[1]= $\{2 x_1 + 6 x_1^2 + 3 x_2 + 6 x_2^2, x_1 - x_2 + 7 x_2^2\}$

In[2]:= **GroebnerBasis**[polys, {x1, x2}]

Out[2]= $\{5 x_2 - 2 x_2^2 - 84 x_2^3 + 294 x_2^4, x_1 - x_2 + 7 x_2^2\}$

In[4]:= **Solve**[5 x2 - 2 x2^2 - 84 x2^3 + 294 x2^4 == 0, x2] // N

Out[4]= $\{\{x_2 \rightarrow 0.\}, \{x_2 \rightarrow -0.195247\},$
 $\{x_2 \rightarrow 0.240481 - 0.171093 i\}, \{x_2 \rightarrow 0.240481 + 0.171093 i\}\}$

In[5]:= (* 2 complexes et 2 réels *)

In[6]:= **GroebnerBasis**[polys, {x2, x1}]

Out[6]= $\{135 x_1 + 226 x_1^2 + 672 x_1^3 + 1764 x_1^4, 8 x_1 + 42 x_1^2 + 27 x_2\}$

In[8]:= **Solve**[135 x1 + 226 x1^2 + 672 x1^3 + 1764 x1^4 == 0, x1] // N

Out[8]= $\{\{x_1 \rightarrow 0.\}, \{x_1 \rightarrow -0.462098\},$
 $\{x_1 \rightarrow 0.040573 - 0.404931 i\}, \{x_1 \rightarrow 0.040573 + 0.404931 i\}\}$