Entrée [8]:

```
from sympy import *
```

Entrée [14]:

```
x,y,z,a,b,c=symbols('x, y, z, a, b, c')
Exp=a*x+b*y+c
Eq(Exp,0)
```

Out[14]:

$$ax + by + c = 0$$

Entrée [15]:

```
A=Matrix([3, 5])
A
```

Out[15]:

$$\begin{bmatrix} 3 \\ 5 \end{bmatrix}$$

Entrée [16]:

```
B=Matrix([-1,2])
B
```

Out[16]:

$$\begin{bmatrix} -1 \\ 2 \end{bmatrix}$$

Entrée [17]:

```
Exp1=Exp.subs(((x,A[0]),(y,A[1])))
Exp2=Exp.subs(((x,B[0]),(y,B[1])))
Eq(Exp,0)
Eq(Exp1,0)
Eq(Exp2,0)
pprint(Eq(Exp,0))
pprint(Eq(Exp1,0))
pprint(Eq(Exp2,0))
```

```
a·x + b·y + c = 0
3·a + 5·b + c = 0
-a + 2·b + c = 0
```

Entrée [10]:

```
C=Matrix([0,0,0])
C
```

Out[10]:

$$\begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$$

Entrée [11]:

```
D=Matrix([[x,3,-1],[y,5,2],[1,1,1]])
D
```

Out[11]:

$$\begin{bmatrix} x & 3 & -1 \\ y & 5 & 2 \\ 1 & 1 & 1 \end{bmatrix}$$

Entrée [12]:

```
E=Matrix([a,b,c])
E
```

Out[12]:

$$\begin{bmatrix} a \\ b \\ c \end{bmatrix}$$

Entrée [13]:

```
S=D*E
S
```

Out[13]:

$$\begin{bmatrix} ax + 3b - c \\ ay + 5b + 2c \\ a + b + c \end{bmatrix}$$

Entrée [15]:

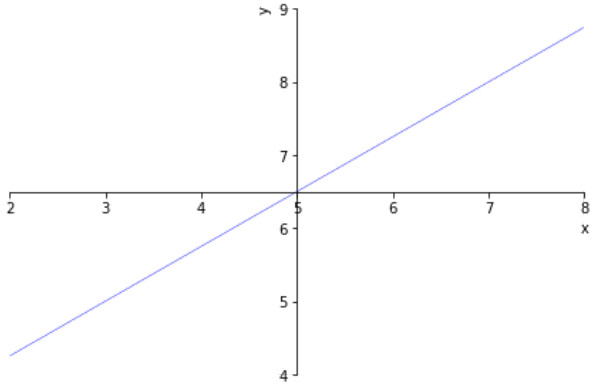
```
A1=D.det()
Eq(A1,0)
```

Out[15]:

$$3x - 4y + 11 = 0$$

Entrée [16]:

```
plot_implicit(Eq(A1,0),(x,2,8),(y,4,9))
```



Out[16]:

```
<sympy.plotting.plot.Plot at 0x2abfd434908>
```