

```
In[28]:= plainText = {{2, 17, 24}, {15, 19, 14}, {6, 17, 0}, {15, 7, 24}};  
cryptoText = {{21, 6, 24}, {23, 0, 17}, {3, 8, 6}, {11, 12, 11}};  
xMatrix = {{x1, x2, x3}, {x4, x5, x6}, {x7, x8, x9}};
```

```
In[37]:= Solve[plainText.xMatrix == cryptoText, {x1, x2, x3, x4, x5, x6, x7, x8, x9}, Modulus → 26]
```

```
Out[37]= {{x1 → 2, x2 → 0, x3 → 1, x4 → 1, x5 → 2,  
          x6 → 0, x7 → 13 C[1], x8 → 1 + 13 C[2], x9 → 2 + 13 C[3]}}
```

```
In[46]:= K = {{2, 0, 1}, {1, 2, 0}, {0, 1, 2}}
```

```
Out[46]= {{2, 0, 1}, {1, 2, 0}, {0, 1, 2}}
```

```
In[45]:= invK = Inverse[K, Modulus → 26]
```

```
Out[45]= {{12, 3, 20}, {20, 12, 3}, {3, 20, 12}}
```