

1 f:=(a,b)->a+b-37;

// Success
// End defining f

(a, b)->a+b-37

2 evalb(f(a,b)=f(b,a))

1

3 E:=solve(f(a,E)=a,E)[0]

37

4 s:=solve(f(a,x)=E,x)[0]

- a +74

5 f(f(a,b),c); f(a,f(b,c));evalb(f(f(a,b),c)=f(a,f(b,c)))

(a+b-37 +c-37 , a+b+c-74 , 1)

6 Prog Edit Ajouter nxt OK Save

```
ordre(k,U):= {
local j;
j:=1;
while (floor(ln((U[k])^j))!=1) {
j:=j+1; }
return (j); };
```

7 Ud:=cZeros(x^(10)-1)

$-1 \quad \exp\left(\frac{i \cdot \pi}{5}\right) \quad \exp\left(\frac{-i \cdot \pi}{5}\right) \quad \exp\left(\frac{3 \cdot i \cdot \pi}{5}\right) \quad \exp\left(\frac{(-3) \cdot i \cdot \pi}{5}\right) \quad \exp\left(\frac{2 \cdot i \cdot \pi}{5}\right) \quad \exp\left(\frac{(-2) \cdot i \cdot \pi}{5}\right)$

8 ordre(4,Ud)

10

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```
GroupeFini(n):= {
local U,A;
U:=cZeros(x^(n)-1);
A:= [seq([seq(U[l]*U[j],l=0..n-1)],j=0..n-1)];
return (simplify(A) );
} ;;
```

10 GroupeFini(3)

$$\begin{vmatrix} \frac{-i \cdot \sqrt{3} + 1}{2} & \frac{1}{-2} & \frac{i \cdot \sqrt{3} + 1}{2} \\ 1 & \frac{i \cdot \sqrt{3} + 1}{2} & \frac{-i \cdot \sqrt{3} + 1}{2} \\ \frac{i \cdot \sqrt{3} + 1}{2} & \frac{-i \cdot \sqrt{3} + 1}{2} & 1 \end{vmatrix}$$

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