sin^6 x + cos^6 x = sinxcosx
(sin^2 x)^3 + (cos^2 x)^3 = sinxcosx
(sin^2 x+cos^2 x)(sin^4 x - sin^2 xcos^2 x+cos^4 x) = sinxcosx
sin^4 x - sin^2 xcos^2 x+cos^4 x= sinxcosx
sin^4 x -3 sin^2 xcos^2 x+cos^4 x+2(sin^2 xcos^2 x)= sinxcosx
(sin^2+cos^2)-3 sin^2 xcos^2 x= sinxcosx
1-3 sin^2 xcos^2 x= sinxcosx
sinxcosx=t
3t^2+t-1=0
D=1+12=13
t=(-1+-V13)/6
sinxcosx=(-1+-V13)/6
sin2x=(-1+-V13)/3
sin2x=(-1-V13)/3- не подходит
sin2x=(-1+V13)/3
2x=arcsin(-1+V13)/3+2Pk
2x=P-arcsin(-1+V13)/3+2Pk
x=(arcsin(-1+V13)/3)/2+Pk
x=P/2-(arcsin(-1+V13)/3)/2+Pk

sin^5 x + cos^5 x = 1
sin^5 x + cos^5 x = sin^2 x + cos^2 x
sin^5 x - sin^2 x =cos^2 x - cos^5 x
sin^2 x(sin^3 x - 1) =cos^2 x(1 - cos^3 x)
sin^2 x(sin x -1)(1-cos^2 x+sin x +1)=cos^2 x(1-cos x)(1+cosx+1-sin^2 x)
[1-cos^2 x](sin x -1)(1-cos^2 x+sin x +1)=[1-sin^2 x](1-cos x)(1+cosx+1-sin^2 x)
1-cosx=0
cosx=1
x=2Pk
sinx-1=0
sinx=1
x=P/2+2Pk
(1+cosx)(sin^2 x+sinx+1)= -(1+sinx)(cos^2 x+cos x +1)

(1+cosx)(sin^2 x+sinx+1)+(1+sinx)(cos^2 x+cos x +1)=0
y(x)=sin^2 x+sinx+1 -- всегда положительная
sinx=t
y(t)=t^2+t+1
D=1-4=-3

y(x)=cos^2 x+cos x +1 --- вегда положительная

(1+cosx)(sin^2 x+sinx+1)+(1+sinx)(cos^2 x+cos x +1)=0
1+sinx и 1+cosx не равны 0 одновременно

Ответ: 2Pk, P/2+2Pk