sinx*cosy=(½)*(sin(x+y)+sin(x-y))
sin5x*cos3x=sin6x*cos2x
(½)*(sin(5x+3x)+sin(5x-3x))=(½)*(sin(6x+2x)+sin(6x-2x))
(½)*(sin(8x)+sin(2x))=(½)*(sin(8x)+sin(4x))
sin(8x)+sin(2x)=sin(8x)+sin(4x)
sin(2x)=sin(4x)
sin(2x)=sin(2x+2x)
sin(2x)=2sin2x*cos2x
sin2x(1-2cos2x)=0

sin2x=0   1-2cos2x=0
2x=Pk   cos2x=1/2
x=Pk/2   2x=+-(P/3)+2Pk
                         x=+-P/6+2Pk/2

Ответ:+-(P/6)+Pk;Pk/2

ДЗ
cos^2 x + cos^2 2x - cos^2 3x - cos^2 4x=0
Подсказка
1)сначала понижение степени
2)потом формулы сложения синусов и косинусов
cosx+cosy = 2cos((x+y)/2)*cos((x-y)/2)
cosx-cosy =-2sin((x+y)/2)*sin((x-y)/2)
(1+cos2x)/2+(1+cos4x)/2-(1+cos6x)/2-(1+cos8x)/2=0
[1+cos2x+1+cos4x-1-cos6x-1-cos8x]/2=0
[cos2x+cos4x-cos6x-cos8x]/2=0|*2
cos2x+cos4x-cos6x-cos8x=0
(cos2x+cos4x)-(cos6x+cos8x)=0
(2cos((2x+4x)/2)*cos((2x-4x)/2))-(2cos((6x+8x)/2)*cos((6x-8x)/2))=0
(2cos((6x)/2)*cos((-2x)/2))-(2cos((14x)/2)*cos((-2x)/2))=0
(2cos(3x)*cos(-x))-(2cos(7x)*cos(-x))=0
2cos(-x)[cos(3x)-cos(7x)]=0

2cosx=0   cos(3x)-cos(7x)=0
cosx=0   -2sin((3x+7x)/2)*sin((3x-7x)/2)=0
x=P/2+Pk   -2sin(5x)*sin(-2x)=0
                 sin5x=0   -sin2x=0
                 5x=Pk   sin2x=0
                 x=Pk/5   2x=Pk
                               x=Pk/2

Ответ:Pk/5;Pk/2