4tg^2 x + ctg^2 x + 6tgx - 3 ctgx - 8=0

4tg^2 x + ctg^2 x+3(2tgx-ctgx)-8=0

2tgx-ctgx=t

t^2=4tg^2x-4tgx*ctgx+ctg^2x

t^2+4=4tg^2x+ctgx^2x

t^2+4+3t-8=0

t^2+3t-4=0

x1=-4

x2=1

2tgx-ctgx=-4

tgx=y

2y-1/y=-4

2y^2-1+4y=0

2y^2+4y-1=0

D/4=4+2=6

x1=(2+V6)/2

x2=(2-V6)/2

tgx=(2+-V6)/2

x=arctgx((2+-V6)/2)+pk

2y-1/y=1

2y^2-y-1=0

D=1+8=9

y1=(1-3)/4=-1/2

y2=(1+3)/4=1

x=arctgx(-1/2)+pk

x=P/4+pk

Ответ:P/4+pk;arctgx(-1/2)+pk;arctgx((2+-V6)/2)+pk