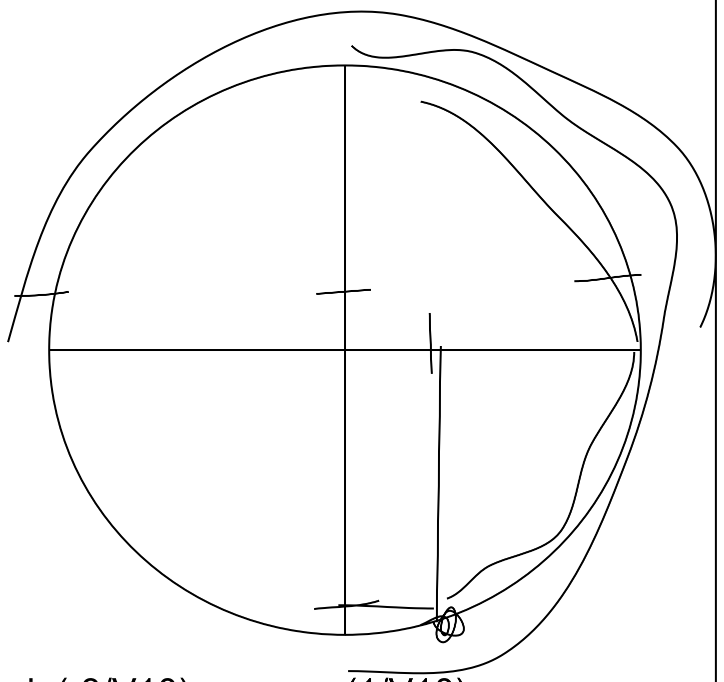
tg^2 x - 3tg x + 2sinx / cos^3 x = 3 / cos^2 x - 1 / cos^4 x
tg^2x+2sinx/cos^3 x+1/cos^4 x=3/cos^2 x+3tgx
sinx^2/cosx^2+2sinx/cos^3 x+1/cos^4 x=3/cos^2 x+3tgx
(sinx/cosx+1/cos^2 x)^2=3/cos^2 x+3tgx
(sinx/cosx+1/cos^2 x)^2=3/cos^2 x+3sinx/cosx
(sinx/cosx+1/cos^2 x)^2=3(1/cos^2 x+sinx/cosx)
1/cos^2 x+sinx/cosx=t
t^2=3t
t=3
t=0
1/cos^2 x+sinx/cosx=0
(1+sinx*cosx)/cos^2 x=0
1+sinx*cosx=0
cos^2 x!=0
sin2x=2*sinx*cosx
sinx*cosx=sin2x/2
1+sin2x/2=0
sin2x=-2 Нет решений

1/cos^2 x+sinx/cosx=3
1+sinx*cosx=3cos^2 x
1+sin2x/2=3cos^2x
1+sin2x/2=3(cos2x+1)/2
2+sin2x=3cos2x+3



y=arcsin(-3/V10)= -arccos(1/V10)

sin2x-3cos2x=1

1*sin2x+(-3)*cos2x=V(1+9)*(sin2x*1/V(10)+cos2x*(-3)/V(10))=

1/V(10)=cosy

(-3)/V(10)=siny

y=arcsin(-3/V10)= -arccos(1/V10)
=V(10)*(sin2x*cosy+siny*cos2x)=V(10)*sin(2x+y)

V(10)*sin(2x+y)=1
sin(2x+y)=1/V(10)
1.2x+y=arcsin(1/V(10))+2Pk
2.2x+y=P-arcsin(1/V(10))+2Pk
1.2x=arcsin(1/V(10))+2Pk-y
2.2x=P-arcsin(1/V(10))+2Pk-y
1.x=(arcsin(1/V(10))+2Pk-arcsin(-3/V10))/2
2.x=(P-arcsin(1/V(10))+2Pk-arcsin(-3/V10))/2
Ответ: (arcsin(1/V(10))+2Pk-arcsin(-3/V10))/2;
(P-arcsin(1/V(10))+2Pk-arcsin(-3/V10))/2

МЕТОД ВСПОМОГАТЕЛЬНОГО АРГУМЕНТА
A*sinx + B*cosx =C

sin(x+y)=sinx*cosy+siny*cosx

ПРЕОБРАЗОВАНИЕ ЛЕВОЙ ЧАСТИ
A*sinx + B*cosx=V(A^2+B^2)*
*(sinx * A/V(A^2+B^2)+ cosx*B/V(A^2+B^2)=

A/V(A^2+B^2)=cosy
B/V(A^2+B^2)=siny

1 причина
|A/V(A^2+B^2)|<=1

2 причина
Осн триг тожд
[A/V(A^2+B^2)]^2 + [B/V(A^2+B^2)]^2 = 1

V(A^2+B^2)*
*(sinx * A/V(A^2+B^2)+ cosx*B/V(A^2+B^2)=
=V(A^2+B^2)*
*(sinx*cosy+siny*cosx)=
=V(A^2+B^2)*sin(x+y)

A*sinx + B*cosx =C
V(A^2+B^2)*sin(x+y)=C
sin(x+y)=C/V(A^2+B^2)

2-ой способ решить

1/cos^2 x+sinx/cosx=3
1/cos^2 x+tgx=3
1+tg^2x+tgx=3
tgx=k
k^2+k-2=0
k1=-2
k2=1
tgx=1
tgx=-2
x1=P/4+Pk
x2=arctg(-2)+Pk
Ответ:P/4+Pk;
arctg(-2)+Pk