$$\int \frac{dx}{Ax^2+2Bx+C}$$

(при $B^2 - AC > 0$)

S(dx/(Ax^2+2Bx+C))=
Ax^2+2Bx+C=0
D=B^2-AC
x1=(-B+V(B^2-AC))/A
x2=(-B-V(B^2-AC))/A
Ax^2+2Bx+C=A(x+B/A+V(B^2-AC)/A)(x+B/A-V(B^2-AC)/A)
F=B/A+V(B^2-AC)/A
R=B/A-V(B^2-AC)/A
1/(Ax^2+2Bx+C)=E/(x+F)+D/(x+R)=[Ex+EF+Dx+DR]/(x+F)(x+R)=
=[x(E+D)+EF+DR]/(x+F)(x+R)
E+D=0
EF+DR=1
E=-D
-DF+DR=1
D(R-F)=1
D=1/(R-F)
E=-1/(R-F)
E/(x+F)+D/(x+R)=-1/(R-F) / (x+F) + 1/(R-F) / (x+R)=
=-1/(R-F)(x+F) + 1/(x+R)(R-F)=1/(R-F)(1/(x+R)-1/(x+F))

1/(R-F)S(1/(x+R)-1/(x+F))dx=1/(R-F)ln|(x+R)/(x+F)|+C=
=1/(-2V(B^2-AC)/A) ln|(x+B/A-V(B^2-AC)/A)/(x+B/A+V(B^2-AC)/A)|+C=
=1/(-2V(B^2-AC)/A) ln|(Ax+B-V(B^2-AC))/(Ax+B+V(B^2-AC))|+C=