S(dx/V(x^2+-a^2))
1)S(dx/V(x^2-a^2))
x=a*cht
dx=d(a*cht)=ad(cht)=a*sht*d(t)
cht’=sht
ch^2(t)-sh^2(t)=1
S(a*sht*d(t)/V((a*cht)^2-a^2))=(1/a)S(a*sht*d(t)/V(ch^2(t)-1))=
=S(sht*d(t)/V(sh^2(t)))=S(sht*d(t)/|sh(t)|)

1. x>0;t>0 - S(sht*d(t)/|sh(t)|)=S(sht*d(t)/sh(t))=S(d(t))=

=t +C=ln(x/a+V(x^2/a^2-1))+C=ln(x/a+1/aV(x^2-a^2))+C=
=ln([x+V(x^2-a^2)]/a)+C=ln(x+V(x^2-a^2))-ln(a)+C=
=ln(x+V(x^2-a^2))+C1
cht=x/a
t=arcch(t/a)=ln(x/a+V(x^2/a^2-1))

2)S(dx/V(x^2+a^2))
x=a*sht
dx=d(a*sht)=ad(sht)=a*cht*d(t)
S(a*cht*d(t)/V((a*sht)^2+a^2))=
(1/a)S(a*cht*d(t)/V((sh^2(t)+1))=
(1/a)S(a*cht*d(t)/V(ch^2(t))=
(1/a)S(a*cht*d(t)/|ch(t)|=
(1/a)S(a*cht*d(t)/ch(t)=
S(d(t))=t+C=
ln(x/a+V(x^2/a^2+1))+C=
ln(x+V(x^2+a^2))-ln(a)+C=
ln(x+V(x^2+a^2))+C1
sht=x/a
t=arcsh(t/a)=ln(x/a+V(x^2/a^2+1))

S(t)dt=t^2/2
S(1)dt=t

$$\int \frac{dx}{\sqrt{x^2 \pm a^2}}$$