$$a>0:\quad \int\limits_{dx} \Re\begin{cases} x \\ \sqrt{ax^2+bx+c} \end{cases} = 2a\int\limits_{dt} \frac{at^2+bt+c}{(2at+b)^2}\Re\begin{cases} \dfrac{at^2-c}{2at+b} \\ \sqrt{a}\dfrac{at^2+bt+c}{2at+b} \end{cases}$$

$$t = x+\sqrt{x^2+bx/a+c/a}$$

$$x = \frac{at^2-c}{2at+b}$$

$$dx = 2a\frac{at^2+bt+c}{(2at+b)^2}dt$$

$$t-x = t-\frac{at^2-c}{2at+b} = \frac{at^2+bt+c}{2at+b}$$

$$\int\limits_{dx} \Re\begin{cases} {}^x\mathfrak{s} \\ {}^x\mathfrak{c} \end{cases} = \int\limits_{du} \frac{2}{1+u^2}\Re\begin{cases} \dfrac{2u}{1+u^2} \\ \dfrac{1-u^2}{1+u^2} \end{cases}$$

$$u = {}^{x/2}\mathfrak{t} \Rightarrow dx = \frac{2du}{1+u^2}:\quad {}^x\mathfrak{s} = \frac{2u}{1+u^2}:\quad {}^x\mathfrak{c} = \frac{1-u^2}{1+u^2}$$

$$\int\limits_{dx} \Re\begin{cases} {}^x\mathfrak{s}^2 \\ {}^x\mathfrak{c}^2 \\ {}^x\mathfrak{s}\,{}^x\mathfrak{c} \end{cases} = \int\limits_{du} \frac{1}{1+u^2}\Re\begin{cases} \dfrac{u^2}{1+u^2} \\ \dfrac{1}{1+u^2} \\ \dfrac{u}{1+u^2} \end{cases}$$

$$u = {}^x\mathfrak{t} \Rightarrow dx = \frac{du}{1+u^2}:\quad {}^x\mathfrak{s}^2 = \frac{u^2}{1+u^2}:\quad {}^x\mathfrak{c}^2 = \frac{1}{1+u^2}:\quad {}^x\mathfrak{s}\,{}^x\mathfrak{c} = \frac{u}{1+u^2}$$