$$\dots = \int \frac{A}{x+1} + \frac{B_1}{x-2} + \frac{B_2}{(x-2)^2} + \frac{B_3}{(x-2)^3} + \frac{Cx+D}{x^2+x+1} + \frac{E_1x+F_1}{x^2+2x+3} + \frac{E_2+F_2}{(x^2+2x+3)^2} + \frac{G_1}{x} + \frac{G_2}{x^2} + \frac{G_3}{x^3} + \frac{G_4}{x^4}\,\mathrm{d}x$$

$$= A\ln|x+1| + B_1\ln|x-2| - B_2(x-2)^{-1} - B_3\frac{1}{2}(x-2)^{-2} + \left(\frac{C}{2}\ln(x^2+x+1) + \frac{D-\frac{1}{2}C}{\sqrt{\frac{3}{4}}}\tan^{-1}\frac{x+\frac{1}{2}}{\sqrt{\frac{3}{4}}}\right) + \left(\frac{E_1}{2}\ln(x^2+2x+3) + \frac{F_1-E_1}{\sqrt{2}}\tan^{-1}\frac{x+1}{\sqrt{2}}\right) + \left(-\frac{E_2}{2}(x^2+2x+3)^{-1} + \frac{F_2-E_2}{4}\frac{x+1}{x^2+2x+3} + \frac{F_2-E_2}{4}\tan^{-1}\frac{x+1}{2}\right) + G_1\ln|x| - G_2x^{-1} - \frac{G_3}{2}x^{-2} - \frac{G_4}{3}x^{-3} + konst.$$

$$= A\ln|x+1| + B_1\ln|x-2| + \tilde{B}_2(x-2)^{-1} + \tilde{B}_3(x-2)^{-2} + \tilde{C}_1\ln|x^2+x+1| + \tilde{C}_2\tan^{-1}\frac{x+\frac{1}{2}}{\sqrt{\frac{3}{4}}} + \tilde{E}_1\ln|x^2+2x+3| + \tilde{E}_2\tan^{-1}\frac{x+1}{\sqrt{2}} + \tilde{E}_3(x^2+2x+3)^{-1} + \tilde{E}_4\frac{x+1}{x^2+2x+3} + \tilde{E}_5\tan^{-1}\frac{x-1}{2} + G_1\ln|x| + \tilde{G}_2x^{-1} + \tilde{G}_3x^{-2} + \tilde{G}_4x^{-3} + konst.$$