比较下列各组不定积分的积分方法

(1) $\int \sin x\,dx$, $\int \sin^2 x\,dx$, $\int \sin^3 x\,dx$, $\int \sin^4 x\,dx$

(2) $\int \tan x\,dx$, $\int \tan^2 x\,dx$, $\int \tan^3 x\,dx$, $\int \tan^4 x\,dx$

(3) $\int \sec x\,dx$, $\int \sec^2 x\,dx$, $\int \sec^3 x\,dx$, $\int \sec^4 x\,dx$

(4) $\int e^x\,dx$, $\int x e^x\,dx$, $\int x e^{x^2}\,dx$

(5) $\int \ln x\,dx$, $\int x \ln x\,dx$ $\int \frac{1}{x \ln x}\,dx$, $\int \frac{\ln x}{x}\,dx$

(6) $\int \sqrt{4-x^2}\,dx$, $\int \sqrt{x^2+4}\,dx$, $\int \sqrt{x^2-4}\,dx$, $\int x\sqrt{x^2-4}\,dx$

(7) $\int (1-2x)^{10}\,dx$, $\int x(1-2x)^{10}\,dx$, $\int x(1-x^2)^{10}\,dx$

(8) $\int \frac{1}{1+x^2}\,dx$, $\int \frac{x}{1+x^2}\,dx$, $\int \frac{x^2}{1+x^2}\,dx$, $\int \frac{x^3}{1+x^2}\,dx$

(9) $\int \frac{1}{x^2+2x+3}\,dx$, $\int \frac{x}{x^2+2x+3}\,dx$, $\int \frac{x^2}{x^2+2x+3}\,dx$, $\int \frac{x^3}{x^2+2x+3}\,dx$

(10) $\int \frac{1}{x^2+2x-3}\,dx$, $\int \frac{x}{x^2+2x-3}\,dx$, $\int \frac{x^2}{x^2+2x-3}\,dx$, $\int \frac{x^3}{x^2+2x-3}\,dx$

(11) $\int \frac{1}{\sqrt{x^2+2x+3}}\,dx$, $\int \frac{1}{\sqrt{x^2+2x-3}}\,dx$, $\int \frac{1}{\sqrt{1-2x-x^2}}\,dx$

$\int \frac{x}{\sqrt{x^2+2x+3}}\,dx$, $\int \frac{x}{\sqrt{x^2+2x-3}}\,dx$, $\int \frac{x}{\sqrt{1-2x-x^2}}\,dx$.