Berehalako integralen adierazpen konposatua.

1.

$\int u^5\,du = \frac{u^6}{6}+k$ $u=\cos x$ $du=-\sin x\,dx$

a) $\int \cos^5 x\,(-\sin x)\,dx = \int (\cos x)^5\cdot(-\sin x)\,dx =$

$= \frac{\cos^6 x}{6} + K.$

b) $\int \sqrt[3]{\cos^2 x}\,(-\sin x)\,dx = \int (\cos x)^{2/3}\cdot(-\sin x)\,dx =$

$\frac{(\cos x)^{2/3+1}}{2/3+1} + k = \frac{\sqrt[3]{\cos^5 x}}{5/3} = \frac{3}{5}\sqrt[3]{\cos^5 x} + K$

c) $\int e^{\cos x}\sin x\,dx = -e^{\cos x} + K$

d) $\int e^{x^3+x^2}(3x^2+2x)\,dx = e^{x^3+x^2} + K$

e) $\int \operatorname{tg} x^2\cdot 2x\,dx = \int \frac{\sin x^2}{\cos x^2}\,2x =$

$-\ln|\cos x^2| + K$

f) $\int \frac{3x^2}{1+x^6}\,dx = \int \frac{3x^2}{1+(x^3)^2}\,dx = \operatorname{arctg} x^3 + K$

g) $\int \frac{-e^{-x}}{\sqrt{1-e^{-2x}}}\,dx = \int \frac{-e^{-x}}{\sqrt{1-(e^{-x})^2}} = \arccos(e^{-x}) + k$

h) $\cancel{\int -e^{-x}}$ $\int \ln(x^2+1)\cdot 2x\,dx =$

$(x^2+1)\ln(x^2+1) - (x^2+1) + k$ $u=x^2+1$ $du=2x\,dx$

I) $\int \sqrt[3]{(x^4+5x)^2}\,(4x^3+5)\,dx = \frac{3}{5}\sqrt[3]{(x^4+5x)^5} + k$

$u=x^4+5x$ $du=(4x^3+5)\,dx$ $\int u^{2/3}\,du = \frac{3}{5}u^{5/3} = \frac{3}{5}\sqrt[3]{(x^4+5x)^5} + k$