12.01

a) $\int x^4 \, dx = \dfrac{x^5}{5} + C$

b) $\int \dfrac{1}{x} \, dx = \ln|x| + C$

c) $\int e^x \, dx = e^x + C$

d) $\int \cos x \, dx = \sin x + C$

e) $\int \sin x \, dx = -\cos x + C$

f) $\int \dfrac{1}{\cos^2 x} \, dx = \tan x + C$

g) $\int \dfrac{1}{\sin^2 x} \, dx = -\cot x + C$

h) $\int \dfrac{1}{1+x^2} \, dx = \arctan x + C$

i) $\int \dfrac{1}{\sqrt{1-x^2}} \, dx = \arcsin x + C$

j) $\int \dfrac{1}{\sqrt{x^2 + a}} \, dx = \ln\left| x + \sqrt{x^2 + a} \right| + C$