

Sec 9.1 - Review problems

① $\int \frac{4}{x+2} dx$

② $\int (2x)^3 dx$

③ $\int_0^1 e^{4x} dx$

④ $\int 2^{4x} dx$

⑤ $\int x \sin(x^2) dx$

⑥ $\int \sec^2 7x dx$

⑦ $\int \tan 3x dx$

⑧ $\int \frac{1}{\sqrt{9-x^2}} dx$

⑨ $\int \frac{x}{x^2+4} dx$

⑩ $\int \frac{1}{x^2+4} dx$

Answers: ① $4 \ln|x+2| + C$ ② $2x^4 + C$ ③ $\frac{e^4 - 1}{4} + C$ ④ $\frac{2^4 \ln 2}{4} + C$ ⑤ $-\frac{1}{2} \cos(x^2) + C$ ⑥ $\frac{1}{7} \tan 7x + C$ ⑦ $-\frac{1}{3} \ln|\cos 3x| + C$ ⑧ $\frac{1}{3} \sin^{-1}\left(\frac{x}{3}\right) + C$ ⑨ $\frac{1}{2} \ln|x^2+4| + C$ ⑩ $\frac{1}{2} \tan^{-1}\left(\frac{x}{2}\right) + C$