

Here are some integrals to test your knowledge with. Some of them are a bit involved and/or tricky. If you are able to do them, however, you should be in a great position for the exam. Also, the last few use partial fractions, which will be covered a bit later.

1.  $\int (\sin^{-1} x)^2 dx$

2.  $\int x \sin^{-1} x dx$

3.  $\int \sin^{-1} \sqrt{x} dx$

4.  $\int \frac{1}{1-\tan^2 x} dx$

5.  $\int \ln(\sqrt{x} + \sqrt{x+1}) dx$

6.  $\int \frac{1}{x-\sqrt{1-x^2}} dx$

7.  $\int \frac{2e^{2x}-e^x}{\sqrt{3e^{2x}-6e^x-1}} dx$

8.  $\int \frac{1}{x^6-1} dx$

9.  $\int \frac{1}{x^4+4} dx$

10.  $\int \frac{1}{x(x+1)(x+2)\dots(x+n)} dx$