

## 7 Practice Problems Concerning Integration by Parts

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

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

3.  $\int x \ln(x) dx$

4.  $\int \frac{\ln(x)}{x^2} dx$

5.  $\int x^2 \sin(x) dx$

6.  $\int e^x \sin(x) dx$

7.  $\int e^x \cos(x) dx$

## 5 Challenge Problems Concerning Integration by Parts

1.  $\int \cos(x) \ln(\cos(x)) dx$

2.  $\int x e^x \ln(x-1) dx$

3.  $\int \sin(x) \cos(x) e^{\cos(x)} dx$

4.  $\int x^4 \tan^{-1}(x) dx$

5.  $\int x^5 \sin(x) dx$