

MA0002 - Øving 1. Vår 2012

7.1: The substitution rule

Oppgave 7.1.1: Evaluate

$$\int 2x\sqrt{x^2+3}dx$$

by making the substitution $u = x^2 + 3$.

Oppgave 7.1.11: Evaluate

$$\int xe^{-x^2/2}dx$$

by making the substitution $u = -x^2/2$.

Oppgave 7.1.15: Evaluate

$$\int \frac{3x}{x+4}dx$$

by making the substitution $u = x + 4$.

7.2: Integration by parts

Oppgave 7.2.7: Use integration by parts to evaluate

$$\int xe^x dx.$$

Oppgave 7.2.9: Use integration by parts to evaluate

$$\int x^2 e^x dx.$$

7.3: Rational functions and partial fractions

Oppgave 7.3.27: Evaluate

$$\int \frac{1}{(x-3)(x+2)} dx.$$

Oppgave 7.3.28: Evaluate

$$\int \frac{2x-1}{(x+4)(x+1)} dx.$$