

**Handout 2(a): Review of u-Substitution**

Evaluate each of the indefinite integrals given below.

(a)  $\int \frac{x \cdot e^{x^2}}{2 + e^{x^2}} \cdot dx$

(b)  $\int \frac{24 \cdot x^3 + 4}{(3 \cdot x^4 + 2 \cdot x + 1)^9} \cdot dx$

(c)  $\int \frac{1}{2 \cdot \sqrt{x}} \cdot \frac{1}{(1+x)} \cdot dx$

(d)  $\int \frac{1}{x \cdot \ln(x^3)} \cdot dx$

(e)  $\int \frac{1}{9 + x^2} \cdot dx$

(f)  $\int \frac{-2x}{\sqrt{1-x^2}} \cdot dx$

(g)  $\int x^2 \cdot \sqrt{x-2} \cdot dx$