1 Basic Calculus: Practice Exercises

Determine the following derivatives and evaluate the following integrals, all by hand. You should also learn how to check these answers on Wolfram Alpha.

(a) $\frac{d}{du}\left(u^2 \sin u\right)$

(b) $\frac{d}{dz}\left(\ln(z^2+1)\right)$

(c) $\int v \cos(v^2)\, dv$

(d) $\int v \cos v\, dv$