

Exercise 24. *c)* $H_n(z) = \left[\frac{\partial^n}{\partial s^n} e^{-s^2+2sz} \right]_{s=0} = {}^1 \left[e^{z^2} \frac{\partial^n}{\partial s^n} e^{-(s-z)^2} \right]_{s=0} = {}^2 \left[e^{z^2} \frac{\partial^n}{\partial y^n} e^{-y^2} \right]_{y=-z} =$
 $(-1)^n e^{z^2} \frac{\partial^n}{\partial z^n} e^{-z^2}$

¹ $e^{-(s-z)^2} = e^{-s^2+2sz-z^2}$
² $s - z = y$