

Det ses let at $p(x) \geq 0$, og

$$\begin{aligned}\int_{-2}^2 \frac{3}{32}(4-x^2) dx &= \frac{3}{32} \left[4x - \frac{x^3}{3} \right]_{-2}^2 \\ &= \frac{3}{32} \left(\left(8 - \frac{8}{3} \right) - \left(-8 + \frac{8}{3} \right) \right) = 1.\end{aligned}$$

Middelværdien i denne fordeling er åbenbart 0, da fordelingen er symmetrisk ($p(x) = p(-x)$). Variansen bliver derfor

$$\begin{aligned}\frac{3}{32} \int_{-2}^2 (4-x^2)x^2 dx &= \frac{3}{32} \int_{-2}^2 (4x^2 - x^4) dx = \frac{3}{32} \left[4\frac{x^3}{3} - \frac{x^5}{5} \right]_{-2}^2 \\ &= \frac{3}{32} \times 2 \times \left(\frac{32}{3} - \frac{32}{5} \right) = \frac{4}{5}.\end{aligned}$$