

Plot the function

$$g(x) = \frac{1}{2}(2x - \lceil x \rceil)\lceil x \rceil, \quad x \in \mathbb{R},$$

where

$$\lceil x \rceil = \lfloor x + 1/2 \rfloor = \left\lfloor \frac{\lfloor 2x \rfloor}{2} \right\rfloor, \quad x \in \mathbb{R}.$$

Or, explicitly,

$$\forall x \in \mathbb{R} \forall m \in \mathbb{Z} \quad m = \lceil x \rceil \quad \Leftrightarrow \quad m - \frac{1}{2} \leq x < m + \frac{1}{2}.$$

