Piecewise Composite Functions

$\lfloor r^2 + 2 \rfloor, \quad 0 \leq r \leq 3$
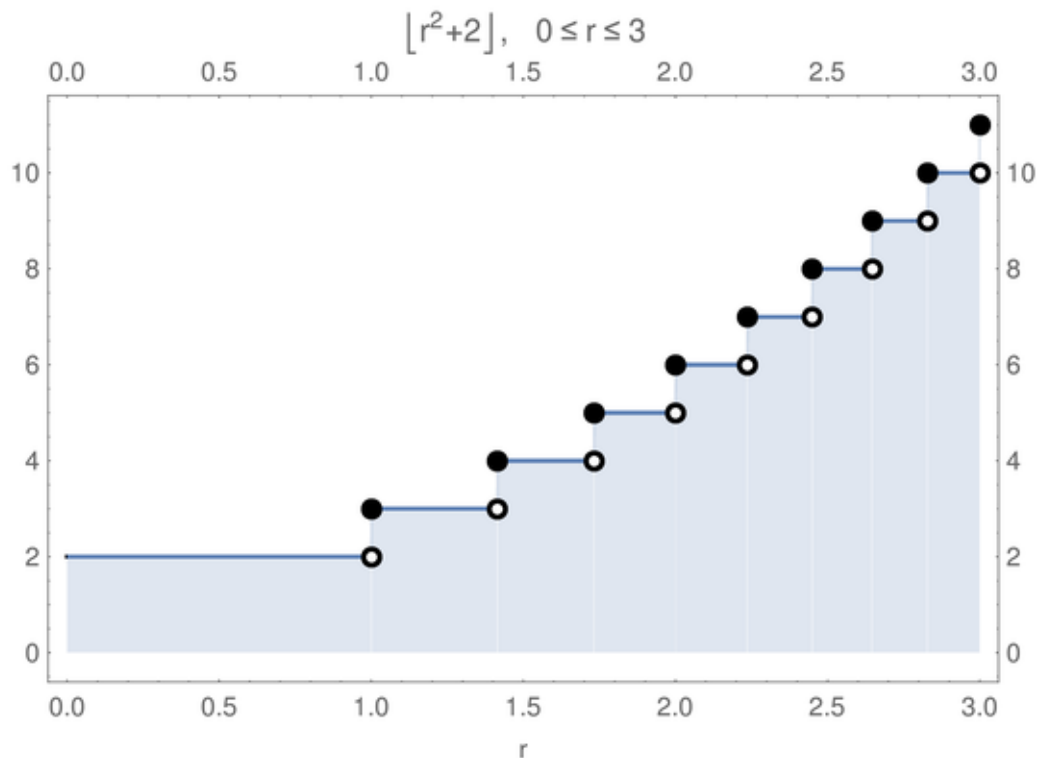
$$\begin{cases} 2 & r < 1 \\ 3 & 1 \leq r < \sqrt{2} \\ 4 & \sqrt{2} \leq r < \sqrt{3} \\ 5 & \sqrt{3} \leq r < 2 \\ 6 & 2 \leq r < \sqrt{5} \\ 7 & \sqrt{5} \leq r < \sqrt{6} \\ 8 & \sqrt{6} \leq r < \sqrt{7} \\ 9 & \sqrt{7} \leq r < 2\sqrt{2} \\ 10 & \text{True} \end{cases}$$