$$f(x) = \begin{cases} \frac{x^2}{3} & x \in [-1,2] \\ 0 & \leq x \notin [-1,2] \end{cases}$$

Para $P(0 < x \leq 1)$:

$(0,1] \subseteq [-1,2] \rightarrow P(x \in (0,1]) = \int_0^1 \frac{x^2}{3}\,dx$

$= \frac{x^3}{9}\Big|_0^1 = \frac{1}{9}$.

Para $P(1 < x \leq 2)$:

$(1,2] \subseteq [-1,2] \rightarrow P(x \in (1,2]) = \int_1^2 \frac{x^2}{3}\,dx$

$= \frac{x^3}{9}\Big|_1^2 = \frac{8}{9} - \frac{1}{9} = \frac{7}{9}$