Number of electrons arriving at screen

$$p_y \cdot w = h$$

Electron entered slit with momentum along x direction and no momentum in the y direction. When it is diffracted it acquires a p_y which can be as big as h/w.

The "Uncertainty in p_y" is $\Delta p_y \approx$ h/w.

An electron passed through the slit somewhere along the y direction. The "Uncertainty in y" is $\Delta y \approx$ w.

$$\therefore \quad \Delta p_y \cdot \Delta y \approx h$$