

- 28 Evidence for the wave-particle duality may be observed by the diffraction of an electron beam at a slit. A diffraction pattern is observed on a suitable screen.

For an electron passing through the slit, the uncertainty in its position  $\Delta x$  and the uncertainty in its momentum  $\Delta p$  are related by the following expression

$$\Delta p \Delta x \geq h$$

Which diagram below shows the positions where  $\Delta x$  and  $\Delta p$  in the equation above are defined and shows them in the correct direction?

