p

$$\tilde{\varphi}(p) = pX\varphi$$
$$= p\int xxX\varphi$$
$$= \frac{1}{\sqrt{2\pi\hbar}}\int xxe^{-\imath px/\hbar}\varphi(x)$$
$$= \imath\hbar p\tilde{p}$$

o

$$x\imath\hbar t\varphi = \left\{\frac{p^2}{2m} + V(X)\right\}\varphi$$
$$\imath\hbar t\varphi(x,t) = -\frac{\hbar^2}{2m}[2]x\varphi(x,t) + V(x)\varphi(x,t)p\imath\hbar t\varphi = \left\{\frac{p^2}{2m} + V(X)\right\}\varphi$$
$$\imath\hbar t\tilde{\varphi}(p,t) = -\frac{\hbar^2}{2m}\tilde{\varphi}(p,t) + V\left(\imath\hbar p\right)\tilde{\varphi}(p,t)$$

AB

$$\tilde{B} = B - B_{\varphi}$$

$\vec{f} = \tilde{A}\varphi\vec{g} = \tilde{B}\varphi$

$$\tilde{A}\tilde{B}^2_{\varphi} = \frac{1}{2}\tilde{D} + \frac{1}{2}\imath C^2 = \frac{1}{4}\tilde{D}^2 + \frac{1}{4}C$$
$$\geq \frac{1}{4}C^2$$

$A = XB = PC = \hbar I$