a)

$T = \frac{1}{2} m v^2 = \frac{p^2}{2m}$ given formula for kinetic energy

$\langle Q(x, p) \rangle = \int \psi^* Q(x, \frac{h}{i} \frac{\partial}{\partial} x) \psi \, dx$ 1.36

$\langle T \rangle = \int \psi^* \frac{p^2}{2m} \psi \, dx$

$\langle T \rangle = \frac{1}{2m} \int \psi^* p^2 \psi \, dx$

because Griffiths said so, we replace every p by $p => (\frac{h}{i})(\frac{\partial}{\partial x})$

$\langle T \rangle = \frac{1}{2m} \int \psi^* ((\frac{h}{i})(\frac{\partial}{\partial x}))^2 \psi \, dx$

$\langle T \rangle = - \frac{h^2}{2m} \int \psi^* \frac{\partial^2 \psi}{\partial x^2} dx$