Well the main question here is why the next happens:

$$\frac{1}{mw}\frac{d^2\psi}{dx^2} = \frac{d^2\psi}{d\xi^2} \tag{1}$$

Because if you take the second derivative of xi you get this:

$$\frac{d\xi}{dx} = \sqrt{\frac{m\omega}{\hbar}} \Rightarrow \frac{d^2\xi}{dx^2} = 0 \tag{2}$$

Because:

$$\sqrt{\frac{m\omega}{\hbar}} = constant \tag{3}$$