On the first rectangular domain

$$
\begin{aligned}
\psi(x+\Delta x_1, y) &= \psi(x,y) + \frac{\partial \psi}{\partial x}\Delta x_1 + \frac{\partial^2 \psi}{\partial x^2}\frac{\Delta x_1^2}{2} \\
\psi(x-\Delta x_1, y) &= \psi(x,y) - \frac{\partial \psi}{\partial x}\Delta x_1 + \frac{\partial^2 \psi}{\partial x^2}\frac{\Delta x_1^2}{2} \\
\psi(x, y+\Delta y_2) &= \psi(x,y) + \frac{\partial \psi}{\partial y}\Delta y_1 + \frac{\partial \Delta y_1^2 \psi}{\partial y^2}\frac{\Delta y_1^2}{2} \\
\psi(x, y-\Delta y_2) &= \psi(x,y) - \frac{\partial \psi}{\partial y}\Delta y_1 + \frac{\partial^2 \psi}{\partial y^2}\frac{\Delta y_1^2}{2}
\end{aligned}
$$

Therefore

$$
\begin{aligned}
\Delta \psi = \frac{\partial^2 \psi}{\partial x^2} + \frac{\partial^2 \psi}{\partial y^2} = & \frac{\psi(x+\Delta x_1, y) + \psi(x-\Delta x_1, y) - 2\psi(x,y)}{\Delta x_2^2} \\
& + \frac{\psi(x, y+\Delta y_1) + \psi(x, y-\Delta y_1) - 2\psi(x,y)}{\Delta y_2^2}
\end{aligned}
$$

$$
\Delta \psi = \frac{\psi(i+1, y) + \psi(i-1, y) - 2\psi(i,j)}{\Delta x_2^2} + \frac{\psi(i, j+1) + \psi(i, j-1) - 2\psi(i,j)}{\Delta y_2^2}
$$

$$
\gamma_1 \psi(i,j) + \beta_1^2 \left(\psi(i+1,y) + \psi(i-1,y)\right) + \left(\psi(i,j+1) + \psi(i,j-1)\right) = 0. \tag{1}
$$

On the second rectangular domain, using the same argument with the definition $\beta_3 = \Delta y_3 / \Delta x_3$

$$
\gamma_3 \psi(i,j) + \beta_3^2 \left(\psi(i+1,y) + \psi(i-1,y)\right) + \left(\psi(i,j+1) + \psi(i,j-1)\right) = 0. \tag{2}
$$

On the oblique domain: