coursera

☰ **Item Navigation**

# SOR Equations

Derive the SOR finite difference equations for

(a) the stream function equation,

$$-\left(\frac{\partial^2 \psi}{\partial \xi^2} + \frac{\partial^2 \psi}{\partial \theta^2}\right) = e^{2\xi}\omega;$$

(b) the scalar vorticity equation,

$$-\left(\frac{\partial^2 \omega}{\partial \xi^2} + \frac{\partial^2 \omega}{\partial \theta^2}\right) = \frac{\mathrm{Re}}{2}\left(\frac{\partial \psi}{\partial \xi}\frac{\partial \omega}{\partial \theta} - \frac{\partial \psi}{\partial \theta}\frac{\partial \omega}{\partial \xi}\right).$$

**Mark as completed**

👍 **Like**        👎 **Dislike**        ⚑ **Report an issue**