Cylindrical coordinates

$$\nabla \cdot \mathbf{F} \;=\; \frac{1}{r}\frac{\partial}{\partial r}(r F_r) + \frac{1}{r}\frac{\partial F_\theta}{\partial \theta} + \frac{\partial F_z}{\partial z}$$

$$\nabla^2 f \;=\; \frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial f}{\partial r}\right) + \frac{1}{r^2}\frac{\partial^2 f}{\partial \theta^2} + \frac{\partial^2 f}{\partial z^2}$$

$$\nabla \times \mathbf{F} \;=\; \frac{1}{r}\begin{vmatrix} \hat{\mathbf{r}} & r\hat{\theta} & \hat{\mathbf{z}} \\[4pt] \dfrac{\partial}{\partial r} & \dfrac{\partial}{\partial \theta} & \dfrac{\partial}{\partial z} \\[6pt] F_r & r F_\theta & F_z \end{vmatrix}$$

Spherical coordinates

$$\nabla \cdot \mathbf{F} \;=\; \frac{1}{r^2}\frac{\partial}{\partial r}(r^2 F_r) + \frac{1}{r^2 \sin\theta}\frac{\partial}{\partial \theta}(F_\theta \sin\theta) + \frac{1}{r \sin\theta}\frac{\partial F_\phi}{\partial \phi}$$

$$\nabla^2 f \;=\; \frac{1}{r^2}\frac{\partial}{\partial r}\left(r^2\frac{\partial f}{\partial r}\right) + \frac{1}{r^2 \sin\theta}\frac{\partial}{\partial \theta}\left(\sin\theta\frac{\partial f}{\partial \theta}\right) + \frac{1}{r^2 \sin^2\theta}\frac{\partial^2 f}{\partial \phi^2}$$

$$\nabla \times \mathbf{F} \;=\; \frac{1}{r^2 \sin\theta}\begin{vmatrix} \hat{\mathbf{r}} & r\hat{\theta} & r\sin\theta\,\hat{\phi} \\[4pt] \dfrac{\partial}{\partial r} & \dfrac{\partial}{\partial \theta} & \dfrac{\partial}{\partial \phi} \\[6pt] F_r & r F_\theta & r\sin\theta F_\phi \end{vmatrix}$$