Elliptic Case

In the elliptic case,

$$a\left(\frac{\mathrm{d}y}{\mathrm{d}x}\right)^2 - 2b\left(\frac{\mathrm{d}y}{\mathrm{d}x}\right) + c = 0$$

leads to complex roots.

Take ξ^* as the integration constant of either root. Then take $\xi = \Re(\xi^*)$ and $\eta = \Im(\xi^*)$.

Canonical form:

$$a' u_{\xi\xi} + a' u_{\eta\eta} + d' = 0$$