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Solve the system :

$$x^2 + xy^3 = 9$$

$$3x^2y - y^3 = 4$$

using Newton's method for non-linear system.

Use each of the initial guesses :

$$(x_0, y_0) = (1.2, 2.5), (-2, 2.5), (-1.2, -2.5), (2, -2.5)$$

Observe which root to which the method converges, the number of iterates required, and the speed of convergence.