

First-Order Partial Differential Equations > Nonlinear Equations > Section 3.3

8.
$$F\left(\frac{\partial w}{\partial x}, \frac{\partial w}{\partial y}\right) = 0$$
.

Complete integral:

$$w = C_1 x + C_2 y + C_3,$$

where C_1 and C_3 are arbitrary constants and the constant C_2 is related to C_1 by $F(C_1, C_2) = 0$.

References

Kamke, E., Differentialgleichungen: Lösungsmethoden und Lösungen, II, Partielle Differentialgleichungen Erster Ordnung für eine gesuchte Funktion, Akad. Verlagsgesellschaft Geest & Portig, Leipzig, 1965.

Polyanin, A. D., Zaitsev, V. F., and Moussiaux, A., Handbook of First Order Partial Differential Equations, Taylor & Francis, London, 2002.

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