4.

OMOITUITA MAMA

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—— 5 ——

Ima made mite kâta Kanziw wo ieba, " Discussion " ga tarinai to iu yori okonawarete inai to itta Hô ga yoi kurai da. Dô mo hagayui Omoi ga suru ga Sikata ga nai mono ka sira ? Homeru no wa wake nai ga, O-taiko wo tataite iru yô de Ki ga susumanai. Dukeduke sisugiru kamo sirenai ga omoituita mama wo kakitudutte ikitai.

Boku wa Hatake-tigai no Koto wa wakaranai kara itumo Nakano Udi no mono wo hippaidasu ga, sore dake tokuni tyûisite yonde inu Tumorida.

Udi wa 7-gô de " Kai no Topologische Abbildungen" wo "Renritu"no Baai ni kwakutyôsite iru. Kekkwa wa amarini Akke naku miemu. Daga sore de Mondai wa owatta to omottyû Kiga hayasugiru. n-kai no Baai wo Renritu no Baai ni kwakutyôsuru nimo iroirona Sikata ga aru darô. n-kai no Hôteisiki

(1) $$\frac{d^n y}{dx^n} + a_1(x)\frac{d^{n-1}y}{dx^{n-1}} + \cdots + a_n(x)y = 0$$

ga aru Henkwan de

(2) $$\frac{d^n z}{dt^n} + b_1(t)\frac{d^{n-1}z}{dt^{n-1}} + \cdots + b_n(t)z = 0$$

to natta to siyô. Kore wo Renritu no Mondai ni naositara dô naru ka ?

(1) wa

(3) $$\begin{cases} \frac{dy_1}{dx} = y_2, \cdots \frac{dy_{n-1}}{dx} = y_n \\ \frac{dy_n}{dx} = -\{a_1(x)y_n + \cdots + a_n(x)y_1\} \end{cases}$$

to, (2) wa

(4) $$\frac{dz_1}{dt} = z_2, \cdots \frac{dz_{n-1}}{dt} = z_n$$

$$\frac{dz_n}{dt} = -\{b_1(t)z_n + \cdots + b_n(t)z_1\}$$

o dôtô de aru. (3) no saisyono (n- 1)-ko wa (4) no saisyono (n- 1)-ko o onazi Katati wo motte iru. Sitagatte tugino yôna Katati ni Mondai a teisyutusareru.

m-kono Kwandei

5) $f_j\left(x, y_1, \cdots, y_n, \frac{dy_1}{dx}, \cdots, \frac{d^n y_n}{dx^n}\right) = 0, \quad (j = 1, 2, \cdots, m; \quad m < n)$

o kaenai Henkwan de tagaini uturu koto ga dekiru Renritu-bibunhôteisiki o Class wo kimeru koto. "

Kwankei (5) wo $\frac{dy_1}{dx} = y_2, \ldots, \frac{dy_{n-1}}{dx} = y_n$ to sureba n-kai no Baai ni naru. $m = 0$ to sureba Nakano Udi ga 7-gô de ronzita Baai ni naru.

Kono yôna Katati no Mondai wo dasite umaku tokeru ka dô ka wa Betu-mondai da. Mondai wo motto betuna Katati ni sita Hô ga yoi kamo sirenai. Nao n- kai no Baai no Kai no Zero-ten ni kwansuru Mondai wo Renritu no Baai ni kwakutyôsuru ni ntatte mo onazi yôna Tyûi ga Hituyô de aru koto wo tukekuwaete okitai.

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