③ 2/7 ×2

$$(2u_2+1) = \frac{\cancel{2}\cdot(-\Delta_2+\Delta_1-1)(2n+1)(2y_1+1)\cdot\frac{1}{\cancel{2}} - \cancel{2}\cdot(-\Delta_2+\Delta_1-1)\cdot\frac{1}{\cancel{2}} + 1 - (-\Delta_2+\Delta_1)}{2n+1}$$

$$= -(-\Delta_2+\Delta_1-1) - (-\Delta_2+\Delta_1-1)$$

$$= (-\Delta_2+\Delta_1-1)\,(2y_1+1) + \frac{-(-\Delta_2+\Delta_1-1)+1-(-\Delta_2+\Delta_1)}{2n+1}$$

$$= (-\Delta_2+\Delta_1-1)(2y_1+1) - 2\,\frac{(-\Delta_2+\Delta_1-1)}{2n+1} \quad ↯$$

Or Be: $u_1 = -(-\Delta_2+\Delta_1-1)(2ny_1+n+y_1)$

$$(2u_2+1) = \frac{-\cancel{2}(-\Delta_2+\Delta_1-1)(2n+1)(2y_1+1)\frac{1}{\cancel{2}} + 2(-\Delta_2+\Delta_1-1)\frac{1}{2}+1-(\Delta_2+\Delta_1)}{2n+1}$$

$$= -(-\Delta_2+\Delta_1-1)(2y_1+1) + \frac{(-\Delta_2+\Delta_1-1) - (-\Delta_2+\Delta_1-1)}{2n+1}^{=0}$$

$$(2u_2+1) = -(-\Delta_2+\Delta_1-1)(2y_1+1)$$

$$u_2 = \left(-(-\Delta_2+\Delta_1-1)(2y_1+1) - 1\right)\frac{1}{2}$$

$$= -(-\Delta_2+\Delta_1-1)\left((2y_1+1)-1\right)\frac{1}{2}$$

$u_2 = -(-\Delta_2+\Delta_1-1)\,y_1$ arbitrary!! (can e.g. be ~~$y_1 = 2x_1y_1 + x_1+y_1$~~ $y_1 = 2x_1\alpha_1 + x_1 + \alpha_1$)

Case: $\Delta x_{1/2} \neq n\cdot(2x_1+1)$:

(eq.3) $$(2u_1+1) = (2u_2+1) + 2\Delta x_{1/2}\,\frac{(2u_2+1)+(-\Delta_2+\Delta_1)}{(2x_1+1)}$$

Be $u_2 = (-\Delta_2+\Delta_1+1)(2x_1y_1+x_1+y_1)$

$$= (-\Delta_2+\Delta_1+1)\left((2x_1+1)(2y_1+1)-1\right)\frac{1}{2}$$

$$\Rightarrow (2u_1+1) = (2u_2+1) + 2\Delta x_{1/2}\,\frac{2\cdot(-\Delta_2+\Delta_1+1)\overset{2x_1y_1+x_1+y_1}{\cancel{((2x_1+1)(2y_1+1)-1)}}\frac{1}{2}+1+(-\Delta_2+\Delta_1)}{(2x_1+1)}$$

~~$= (2u_2+1) + 2\Delta x_{1/2}\,\frac{(-\Delta_2+\Delta_1+1)(2x_1+1)(2y_1+1) - (-\Delta_2+\Delta_1+1) + 1 + (-\Delta_2+\Delta_1)}{2x_1+1}$~~

~~$= (2u_2+1) + 2\Delta x_{1/2}\left[(-\Delta_2+\Delta_1+1)(2y_1+1) + \frac{-(-\Delta_2+\Delta_1+1)}{}\right.$~~