

$$\Rightarrow K_2 = (-\Delta_2 + \Delta_1 + 1) (2x_1 (2x_1' \tilde{y}_1 + x_1' + \tilde{y}_1) + x_1 + (2x_1' \tilde{y}_1 + x_1' + \tilde{y}_1))$$

$$\tilde{y}_1 \in \mathbb{N}$$

$$= (-\Delta_2 + \Delta_1 + 1) \cancel{(2^2 x_1 x_1' \tilde{y}_1 + 2 x_1 x_1' + 2 \tilde{y}_1 + x_1 + 2 x_1' \tilde{y}_1 + x_1' + \tilde{y}_1)}$$

$$K_2 = (-\Delta_2 + \Delta_1 + 1) (2^2 x_1 x_1' \tilde{y}_1 + 2 x_1 x_1' + 3 \tilde{y}_1 + 2 x_1' \tilde{y}_1 + x_1 + x_1')$$

$$= (-\Delta_2 + \Delta_1 + 1) (2 x_1 \tilde{y}_1 + x_1 + \tilde{y}_1)$$

$$= (-\Delta_2 + \Delta_1 + 1) ((2x_1 + 1)(2\tilde{y}_1 + 1) - 1)^{\frac{1}{2}}$$

$$= (-\Delta_2 + \Delta_1 + 1) \left[(2x_1 + 1) \left(2((2x_1' + 1)(2\tilde{y}_1' + 1) - 1)^{\frac{1}{2}} + 1 \right) - 1 \right]^{\frac{1}{2}}$$

$$= (-\Delta_2 + \Delta_1 + 1) \left[(2x_1 + 1) \left((2x_1' + 1)(2\tilde{y}_1' + 1) - 1 + 1 \right) - 1 \right]^{\frac{1}{2}}$$

$$K_2 = (-\Delta_2 + \Delta_1 + 1) \left[(2x_1 + 1)(2x_1' + 1)(2\tilde{y}_1 + 1) - 1 \right]^{\frac{1}{2}}$$

$$\cancel{(-\Delta_2 + \Delta_1 + 1)}$$