

DIN 31130 cont

$$\vec{F} = \frac{1}{3} \frac{9}{24} \vec{F}^4 + \begin{pmatrix} 1.474068 \\ 1.643357 \end{pmatrix} \text{ corrector}$$

To find  $\vec{F}^4$ , evaluate using  $\vec{y}^4$  from the predictor  $\Rightarrow$

$$\vec{F}^4 = \begin{pmatrix} y_2^4 \\ 2x^4 - y_1^4 \end{pmatrix} = \begin{pmatrix} y_2^4 \\ \frac{8}{3} - y_1^4 \end{pmatrix} = \begin{pmatrix} 1.763909 \\ \frac{8}{3} - 1.695853 \end{pmatrix}$$

$$= \begin{pmatrix} 1.763909 \\ .970814 \end{pmatrix} \cdot \text{Using the corrector this gives}$$

$$\vec{F}^4 = \frac{1}{3} \frac{9}{24} \begin{pmatrix} 1.763909 \\ .970814 \end{pmatrix} + \begin{pmatrix} 1.474068 \\ 1.643357 \end{pmatrix} = \begin{pmatrix} 1.694557 \\ 1.764709 \end{pmatrix}$$

1st corrected result.  $\swarrow$