

Building an Extended *Tres Hermanos* Rule

$$\begin{array}{l}
 \int_1 f(x) dx \quad \left[\begin{array}{ccc} \frac{25}{24} & \frac{-1}{12} & \frac{1}{24} \end{array} \right] \\
 \int_2 f(x) dx \quad \left[\begin{array}{ccc} \frac{1}{24} & \frac{11}{12} & \frac{1}{24} \end{array} \right] \\
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 \int_3 f(x) dx \quad \left[\begin{array}{ccc} \frac{1}{24} & \frac{-1}{12} & \frac{25}{24} \end{array} \right] \\
 \text{coefficients: } \left[\begin{array}{ccccccc} \frac{26}{24} & \frac{21}{24} & \frac{25}{24} & 1 & 1 & \frac{25}{24} & \frac{21}{24} & \frac{26}{24} \end{array} \right]
 \end{array}$$