

$$\text{With}\left[\left\{\omega = \frac{1}{\sqrt{t_i}}, P = \frac{c_i}{4} - \frac{c_i}{t_i^2} - \frac{c_i}{4 t_i} + \frac{u_i w_i}{4 t_i}\right\},\right.$$

$$\text{Series}\left[\omega^{-1} (1 + \epsilon \omega^{-4} P) /. x_{-i} \rightarrow x /. \{u \rightarrow \hbar u, t \rightarrow e^{\hbar b}, \epsilon \rightarrow \hbar \epsilon\}, \{\hbar, 0, 1\}\right]$$

$$1 + \left(\frac{b}{2} - c \epsilon\right) \hbar + O[\hbar]^2$$