

$\text{CF}[\omega \cdot \mathcal{E} \mathbb{E}] := \text{CF}[\omega] \times \text{CF} / @ \mathcal{E};$

$\text{CF}[\mathcal{E} \text{List}] := \text{CF} / @ \mathcal{E};$

$\text{CF}[\mathcal{E}] := \text{Module}[\{\text{vs}, \text{ps}, \text{c}\},$
 $\text{vs} = \text{Cases}[\mathcal{E}, (\text{x} \mid \text{p} \mid \xi \mid \pi \mid \text{g}) _, \infty] \cup \{\epsilon\};$
 $\text{Total}[\text{CoefficientRules}[\text{Expand}[\mathcal{E}], \text{vs}] /.$
 $(\text{ps}_\rightarrow \text{c}_\rightarrow) \Rightarrow \text{Factor}[\text{c}] (\text{Times} @@ \text{vs}^{\text{ps}})]];$