

```

Simp[ $\gamma$ _] := Expand[ $\gamma$ ];
CF[ $\gamma$ _] :=  $\gamma$  /. ( $\lambda_\beta$  |  $\lambda_a$ )  $\Rightarrow$  MapAt[Simp,  $\lambda$ , 1];
AutoCollecting[ $\lambda$ _] := ( $\lambda$  /:  $\lambda$ [0, ___] = 0;
   $\lambda$  /:  $\lambda$ [ $f$ _,  $r$ ___] +  $\lambda$ [ $g$ _,  $r$ ___] :=  $\lambda$ [Simp[ $f + g$ ],  $r$ ];
   $\lambda$  /:  $g$  *  $\lambda$ [ $f$ _,  $r$ ___] :=  $\lambda$ [Simp[ $g f$ ],  $r$ ]);
AutoCollecting /@ { $\beta$ ,  $a$ };
UU /: UU[ $x$ _] + UU[ $y$ _] := UU[ $x + y$ ];
UU /:  $a$  * UU[ $x$ _] := UU[Expand[ $a x$ ]];
UU /: D[ $u$  UU,  $vs$ ___] :=
  CF[ $u$  /. ( $\lambda_\beta$  |  $\lambda_a$ )  $\Rightarrow$  MapAt[D[#,  $vs$ ] &,  $\lambda$ , 1]];
UU /: Coefficient[ $u$  UU,  $\lambda$ [_[ $js$ ___]]] :=
  Total[Cases[ $u$ ,  $\lambda$ [ $f$ _,  $js$ ]  $\Rightarrow$   $f$ ,  $\infty$ ]];
K $\delta$  /: K $\delta$  $i s$ ___ := KroneckerDelta[1, Length[Union[{ $i s$ }]]];

```