```
> restart;
> w:=(1-x)^a*(1+x)^b*exp(-t*x);
```

$$w := (1-x)^{a}\,(1+x)^{b}\,e^{-tx} \tag{1}$$

```
> G:=1;C:=0;F:=0;K:=-E*t;J:=-C*t+E*a+E*b+3*E;H:=-B*t+C*a+C*b+E*a-E*
  b+2*C;B:=(A*t-C*a+C*b-E*a-E*b+G)/(a+b+1);E:=-(A*a^2+2*A*a*b+A*a*
  t+A*b^2-A*b*t+4*C*a*b+A*a+A*b+C*a+C*b+G*a-G*b)/(a-b);A:=-C;
```

$$G := 1$$
$$C := 0$$
$$F := 0$$
$$K := -E\,t$$
$$J := E\,a + E\,b + 3\,E$$
$$H := -B\,t + E\,a - E\,b$$
$$B := \frac{A\,t - E\,a - E\,b + 1}{a + b + 1}$$
$$E := -\frac{A\,a^{2} + 2\,A\,a\,b + A\,a\,t + A\,b^{2} - A\,b\,t + A\,a + A\,b + a - b}{a - b}$$
$$A := 0 \tag{2}$$

```
> sigma:=collect(simplify(A+B*x+C*x^2+E*x^3+F*x^4),[x],factor);
  latex(%);
```

$$\sigma := -x^{3} + x$$

```
-{x}^{3}+x
> tau:=collect(simplify(G+H*x+J*x^2+K*x^3),[x,t],factor);latex(%);
```

$$\tau := t\,x^{3} + (-a - b - 3)\,x^{2} + (-t - a + b)\,x + 1$$

```
t{x}^{3}+ \left( -a-b-3 \right) {x}^{2}+ \left( -t-a+b \right)
x+1
> diff(sigma*w,x)-tau*w:
> collect(factor(expand(%)),[x],factor);
```

$$0 \tag{3}$$