

# $\$SPAD/src/input$ richder12c.input

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## Abstract

$(d+e x)^m (f+g x)^n (a+b x+c x^2)^p$  There are:

- 255 integrals in this file.
- 255 supplied "optimal results".
- 128 matching answers.
- 152 cases where Axiom answer differs from Rubi
- 52 cases where Axiom supplied 2 results.
- 0 cases that Axiom failed to integrate.
- 26 that contain expressions Axiom does not recognize.

## Contents

```

      *
)set break resume
)sys rm -f richder12c.output
)spool richder12c.output
)set message test on
)set message auto off
)clear all

--S 1 of 465
t0:=(A+B*x)/((a+c*x^2)^3*sqrt(d+e*x))
--E 1

--S 2 of 465
r0:=-1/4*(a*(B*d-A*e)-(A*c*d+a*B*e)*x)*sqrt(d+e*x)/(a*(c*d^2+a*e^2)*_
(a+c*x^2)^2)+1/16*(a*e*(A*c*d^2-6*a*B*d*e+7*a*A*e^2)-(a*B*e*(c*d^2-_
5*a*e^2)-6*A*c*d*(c*d^2+2*a*e^2))*x)*sqrt(d+e*x)/(a^2*(c*d^2+a*e^2)^2*_
(a+c*x^2))+1/32*atanh(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c)))*_
(e*(a*B*e*(c*d^2-5*a*e^2)-6*A*c*d*(c*d^2+2*a*e^2))-(2*a*B*d*e*(c*d^2+_
4*a*e^2)-3*A*(4*c^2*d^4+9*a*c*d^2*e^2+7*a^2*e^4))*sqrt(c)/sqrt(-a))/_
(a^2*c^(3/4)*(c*d^2+a*e^2)^2*sqrt(-e*sqrt(-a)+d*sqrt(c)))+_
1/32*atanh(c^(1/4)*sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c)))*(e*(a*B*e*_
(c*d^2-5*a*e^2)-6*A*c*d*(c*d^2+2*a*e^2))+2*a*B*d*e*(c*d^2+4*a*e^2)-_
3*A*(4*c^2*d^4+9*a*c*d^2*e^2+7*a^2*e^4))*sqrt(c)/sqrt(-a))/(a^2*c^(3/4)*_
(c*d^2+a*e^2)^2*sqrt(e*sqrt(-a)+d*sqrt(c)))
--E 2

--S 3 of 465
d0:=normalize(t0-D(r0,x))
--E 3

)clear all

--S 4 of 465
t0:=x*sqrt(1+x)/(1+x^2)
--E 4

--S 5 of 465
r0:=-atanh(sqrt(1+x)/sqrt(1-%i))*sqrt(1-%i)-atanh(sqrt(1+x)/sqrt(1+%i))*_
sqrt(1+%i)+2*sqrt(1+x)
--E 5

--S 6 of 465
d0:=normalize(t0-D(r0,x))
--E 6

)clear all

--S 7 of 465

```

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t0:=(1-x)*sqrt(1+x)/(1+x^2)
--E 7

--S 8 of 465
r0:=(1-%i)^(3/2)*atanh(sqrt(1+x)/sqrt(1-%i))+(1+%i)^(3/2)*_
  atanh(sqrt(1+x)/sqrt(1+%i))-2*sqrt(1+x)
--E 8

--S 9 of 465
d0:=normalize(t0-D(r0,x))
--E 9

)clear all

--S 10 of 465
t0:=(A+B*x)*sqrt(d+e*x)*sqrt(a+c*x^2)
--E 10

--S 11 of 465
--r0:=2/7*B*(a+c*x^2)^(3/2)*sqrt(d+e*x)/c-2/105*(4*B*c*d^2-7*A*c*d*e+_
-- 5*a*B*e^2-3*c*e*(B*d+7*A*e)*x)*sqrt(d+e*x)*sqrt(a+c*x^2)/(c*e^2)+_
-- 4/105*elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),_
-- (-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-a)*(-B*_
-- (4*c^(3/2)*d^3-c*d^2*e*sqrt(-a)-5*a*e^3*sqrt(-a)+8*a*d*e^2*sqrt(c))+_
-- 7*A*e*sqrt(c)*(c*d^2-3*a*e^2-4*d*e*sqrt(-a)*sqrt(c)))*sqrt(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(c^(5/4)*e^3*_
-- sqrt(a+c*x^2))-4/105*(4*B*c*d^3-7*A*c*d^2*e+8*a*B*d*e^2+21*a*A*e^3)*_
-- elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))),_
-- (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))/(c^(3/4)*e^4*sqrt(a+c*x^2))
--E 11

--S 12 of 465
--d0:=D(m0,x)
--E 12

)clear all

--S 13 of 465
t0:=(A+B*x)*sqrt(a+c*x^2)/sqrt(d+e*x)
--E 13

--S 14 of 465
--r0:=-2/15*(4*B*d-5*A*e-3*B*e*x)*sqrt(d+e*x)*sqrt(a+c*x^2)/e^2-_
-- 4/15*elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),_
-- (-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-a)*(4*B*c*d^2-_
-- 5*A*c*d*e+3*a*B*e^2-B*d*e*sqrt(-a)*sqrt(c)+5*A*e^2*sqrt(-a)*sqrt(c))*_

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-- sqrt(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+
-- d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/
-- (c^(3/4)*e^3*sqrt(a+c*x^2))-4/15*(4*B*c*d^2-5*A*c*d*e+3*a*B*e^2)*
-- elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))),
-- (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+
-- d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+
-- d*sqrt(c)))/(c^(3/4)*e^4*sqrt(a+c*x^2))
--E 14

--S 15 of 465
--d0:=D(m0,x)
--E 15

)clear all

--S 16 of 465
t0:=(A+B*x)*sqrt(a+c*x^2)/(d+e*x)^(3/2)
--E 16

--S 17 of 465
--r0:=2/3*(4*B*d-3*A*e+B*e*x)*sqrt(a+c*x^2)/(e^2*sqrt(d+e*x))+
-- 4/3*elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),
-- (-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-a)*(-B*e*_
-- sqrt(-a)+4*B*d*sqrt(c)-3*A*e*sqrt(c))*sqrt(-e*sqrt(-a)+d*sqrt(c))*
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+
-- x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(c^(1/4)*e^3*sqrt(a+c*x^2))+
-- 4/3*c^(1/4)*(4*B*d-3*A*e)*elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/
-- sqrt(e*sqrt(-a)+d*sqrt(c))), (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+
-- d*sqrt(c)))*(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+
-- x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(e^4*sqrt(a+c*x^2))
--E 17

--S 18 of 465
--d0:=D(m0,x)
--E 18

)clear all

--S 19 of 465
t0:=(A+B*x)*sqrt(a+c*x^2)/(d+e*x)^(5/2)
--E 19

--S 20 of 465
--r0:=2/3*(4*B*d-A*e+3*B*e*x)*sqrt(a+c*x^2)/(e^2*(d+e*x)^(3/2))-
-- 4/3*(4*B*c*d^2-A*c*d*e+3*a*B*e^2)*sqrt(a+c*x^2)/(e^2*(c*d^2+a*e^2)*
-- sqrt(d+e*x))-4/3*c^(1/4)*elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*_
-- sqrt(-a)+d*sqrt(c))), (-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*
-- sqrt(-a)*(4*B*c*d^2-A*c*d*e+3*a*B*e^2-B*d*e*sqrt(-a))*sqrt(c)+A*e^2*_

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-- sqrt(-a)*sqrt(c))*sqrt(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-
-- x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*_
-- sqrt(-a)+d*sqrt(c)))/(e^3*(c*d^2+a*e^2)*sqrt(a+c*x^2))-4/3*c^(1/4)*_
-- (4*B*c*d^2-A*c*d*e+3*a*B*e^2)*elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/_
-- sqrt(e*sqrt(-a)+d*sqrt(c))), (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))*(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*_
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+_
-- x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(e^4*(c*d^2+a*e^2)*sqrt(a+c*x^2))
--E 20

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--S 21 of 465
--d0:=D(m0,x)
--E 21

```

```
)clear all
```

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--S 22 of 465
t0:=(A+B*x)*(a+c*x^2)^(3/2)/sqrt(d+e*x)
--E 22

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--S 23 of 465
--r0:=-2/63*(8*B*d-9*A*e-7*B*e*x)*(a+c*x^2)^(3/2)*sqrt(d+e*x)/e^2-_
-- 4/315*(32*B*c*d^3-36*A*c*d^2*e+33*a*B*d*e^2-45*a*A*e^3-3*e*(8*B*c*d^2-_
-- 9*A*c*d*e+7*a*B*e^2)*x)*sqrt(d+e*x)*sqrt(a+c*x^2)/e^4+8/315*_
-- elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))), _
-- (-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-a)*(9*A*e*_
-- sqrt(c)*(4*c^(3/2)*d^3+5*(-a)^(3/2)*e^3-c*d^2*e*sqrt(-a)+_
-- 8*a*d*e^2*sqrt(c))-B*(32*c^2*d^4+57*a*c*d^2*e^2+21*a^2*e^4-8*c^(3/2)*_
-- d^3*e*sqrt(-a)-12*a*d*e^3*sqrt(-a)*sqrt(c))*sqrt(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(c^(3/4)*e^5*_
-- sqrt(a+c*x^2))+8/315*(36*A*c*d*e*(c*d^2+2*a*e^2)-B*(32*c^2*d^4+_
-- 57*a*c*d^2*e^2+21*a^2*e^4))*elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/_
-- sqrt(e*sqrt(-a)+d*sqrt(c))), (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))*(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*_
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+_
-- x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(c^(3/4)*e^6*sqrt(a+c*x^2))
--E 23

```

```

--S 24 of 465
--d0:=D(m0,x)
--E 24

```

```
)clear all
```

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--S 25 of 465
t0:=(A+B*x)*(a+c*x^2)^(3/2)/(d+e*x)^(3/2)
--E 25

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--S 26 of 465
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--r0:=2/7*(8*B*d-7*A*e+B*e*x)*(a+c*x^2)^(3/2)/(e^2*sqrt(d+e*x))+
-- 4/35*(5*a*B*e^2+4*c*d*(8*B*d-7*A*e)-3*c*e*(8*B*d-7*A*e)*x)*_
-- sqrt(d+e*x)*sqrt(a+c*x^2)/e^4-8/35*elliptic_f(asin(c^(1/4)*_
-- sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),(-e*sqrt(-a)+d*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-a)*(-B*(32*c^(3/2)*d^3-8*c*d^2*e*_
-- sqrt(-a)-5*a*e^3*sqrt(-a)+29*a*d*e^2*sqrt(c))+7*A*e*sqrt(c)*(4*c*d^2+_
-- 3*a*e^2-d*e*sqrt(-a)*sqrt(c)))*sqrt(-e*sqrt(-a)+d*sqrt(c))*_
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+_
-- x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(c^(1/4)*e^5*sqrt(a+c*x^2))+_
-- 8/35*c^(1/4)*(32*B*c*d^3-28*A*c*d^2*e+29*a*B*d*e^2-21*a*A*e^3)*_
-- elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))),_
-- (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))/(e^6*sqrt(a+c*x^2))
--E 26

```

```

--S 27 of 465
--d0:=D(m0,x)
--E 27

```

)clear all

```

--S 28 of 465
t0:=(A+B*x)*(a+c*x^2)^(3/2)/(d+e*x)^(5/2)
--E 28

```

```

--S 29 of 465
--r0:=2/15*(8*B*d-5*A*e+3*B*e*x)*(a+c*x^2)^(3/2)/(e^2*(d+e*x)^(3/2))-
-- 4/15*(9*a*B*e^2+4*c*d*(8*B*d-5*A*e)+c*e*(8*B*d-5*A*e)*x)*_
-- sqrt(a+c*x^2)/(e^4*sqrt(d+e*x))-8/15*c^(1/4)*elliptic_f(asin(c^(1/4)*_
-- sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),(-e*sqrt(-a)+d*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-a)*(32*B*c*d^2-20*A*c*d*e+9*a*B*e^2-_
-- 8*B*d*e*sqrt(-a)*sqrt(c)+5*A*e^2*sqrt(-a)*sqrt(c))*sqrt(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(e^5*_
-- sqrt(a+c*x^2))-8/15*c^(1/4)*(9*a*B*e^2+4*c*d*(8*B*d-5*A*e))*_
-- elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))),_
-- (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))/(e^6*sqrt(a+c*x^2))
--E 29

```

```

--S 30 of 465
--d0:=D(m0,x)
--E 30

```

)clear all

```

--S 31 of 465
t0:=(A+B*x)*(a+c*x^2)^(3/2)/(d+e*x)^(7/2)
--E 31

--S 32 of 465
--r0:=2/15*(8*B*d-3*A*e+5*B*e*x)*(a+c*x^2)^(3/2)/(e^2*(d+e*x)^(5/2))-
-- 4/15*(5*a*B*e^2+4*c*d*(8*B*d-3*A*e)+3*c*e*(8*B*d-3*A*e)*x)*_
-- sqrt(a+c*x^2)/(e^4*(d+e*x)^(3/2))+8/15*c*(32*B*c*d^3-12*A*c*d^2*e+_
-- 29*a*B*d*e^2-9*a*A*e^3)*sqrt(a+c*x^2)/(e^4*(c*d^2+a*e^2)*sqrt(d+e*x))-
-- 8/15*c^(3/4)*elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+_
-- d*sqrt(c))),(-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-a)*_
-- (-B*(32*c^(3/2)*d^3-8*c*d^2*e*sqrt(-a)-5*a*e^3*sqrt(-a)+29*a*d*e^2*_
-- sqrt(c))+3*A*e*sqrt(c)*(4*c*d^2+3*a*e^2-d*e*sqrt(-a)*sqrt(c)))*_
-- sqrt(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+_
-- d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c)))/(-e*sqrt(-a)+d*sqrt(c))/_
-- (e^5*(c*d^2+a*e^2)*sqrt(a+c*x^2))+8/15*c^(5/4)*(32*B*c*d^3-_
-- 12*A*c*d^2*e+29*a*B*d*e^2-9*a*A*e^3)*elliptic_e(asin(c^(1/4)*_
-- sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))), (e*sqrt(-a)+d*sqrt(c))/_
-- (-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- sqrt(-e*(sqrt(-a)+x*sqrt(c)))/(-e*sqrt(-a)+d*sqrt(c))/(e^6*(c*d^2+_
-- a*e^2)*sqrt(a+c*x^2))
--E 32

--S 33 of 465
--d0:=D(m0,x)
--E 33

)clear all

--S 34 of 465
t0:=(A+B*x)*(d+e*x)^(3/2)/sqrt(a+c*x^2)
--E 34

--S 35 of 465
--r0:=2/5*B*(d+e*x)^(3/2)*sqrt(a+c*x^2)/c+2/15*(3*B*d+5*A*e)*sqrt(d+e*x)*_
-- sqrt(a+c*x^2)/c-2/15*elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*_
-- sqrt(-a)+d*sqrt(c))),(-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- (3*B*(3*(-a)^(3/2)*e^2+c*d^2*sqrt(-a)+4*a*d*e*sqrt(c))-5*A*sqrt(c)*_
-- (3*c*d^2-a*e^2-4*d*e*sqrt(-a)*sqrt(c)))*sqrt(-e*sqrt(-a)+d*sqrt(c))*_
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+_
-- x*sqrt(c)))/(-e*sqrt(-a)+d*sqrt(c))/(c^(7/4)*e*sqrt(a+c*x^2))-
-- 2/15*(3*B*c*d^2+20*A*c*d*e-9*a*B*e^2)*elliptic_e(asin(c^(1/4)*_
-- sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))), (e*sqrt(-a)+d*sqrt(c))/_
-- (-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- sqrt(-e*(sqrt(-a)+x*sqrt(c)))/(-e*sqrt(-a)+d*sqrt(c))/(c^(7/4)*e^2*_
-- sqrt(a+c*x^2))
--E 35

```

```
--S 36 of 465
--d0:=D(m0,x)
--E 36
```

```
)clear all
```

```
--S 37 of 465
t0:=(A+B*x)*sqrt(d+e*x)/sqrt(a+c*x^2)
--E 37
```

```
--S 38 of 465
--r0:=2/3*B*sqrt(d+e*x)*sqrt(a+c*x^2)/c-2/3*elliptic_f(asin(c^(1/4)*_
-- sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),(-e*sqrt(-a)+d*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*(-3*A*c*d+a*B*e+B*d*sqrt(-a)*sqrt(c)+3*A*e*_
-- sqrt(-a)*sqrt(c))*sqrt(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-_
-- x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/_
-- (-e*sqrt(-a)+d*sqrt(c)))/(c^(5/4)*e*sqrt(a+c*x^2))-2/3*(B*d+3*A*e)*_
-- elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))),_
-- (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c)))/(-e*sqrt(-a)+_
-- d*sqrt(c)))/(c^(3/4)*e^2*sqrt(a+c*x^2))
--E 38
```

```
--S 39 of 465
--d0:=D(m0,x)
--E 39
```

```
)clear all
```

```
--S 40 of 465
t0:=(A+B*x)/(sqrt(d+e*x)*sqrt(a+c*x^2))
--E 40
```

```
--S 41 of 465
--r0:=-2*elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),_
-- (-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*(B*sqrt(-a)-A*sqrt(c))*_
-- sqrt(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+_
-- d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c)))/(-e*sqrt(-a)+d*sqrt(c))/_
-- (c^(3/4)*e*sqrt(a+c*x^2))-2*B*elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/_
-- sqrt(e*sqrt(-a)+d*sqrt(c))), (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))*(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*_
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+_
-- x*sqrt(c)))/(-e*sqrt(-a)+d*sqrt(c)))/(c^(3/4)*e^2*sqrt(a+c*x^2))
--E 41
```

```
--S 42 of 465
--d0:=D(m0,x)
--E 42
```

```

)clear all

--S 43 of 465
t0:=(A+B*x)/((d+e*x)^(3/2)*sqrt(a+c*x^2))
--E 43

--S 44 of 465
--r0:=2*(B*d-A*e)*sqrt(a+c*x^2)/((c*d^2+a*e^2)*sqrt(d+e*x))+
-- 2*elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),
-- (-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*(A*c*d+a*B*e+B*d*_
-- sqrt(-a)*sqrt(c)-A*e*sqrt(-a)*sqrt(c))*sqrt(-e*sqrt(-a)+d*sqrt(c))*_
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+_
-- x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/c^(1/4)*e*(c*d^2+a*e^2)*_
-- sqrt(a+c*x^2))+2*c^(1/4)*(B*d-A*e)*elliptic_e(asin(c^(1/4)*_
-- sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))), (e*sqrt(-a)+d*sqrt(c))/_
-- (-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(e^2*(c*d^2+_
-- a*e^2)*sqrt(a+c*x^2))
--E 44

--S 45 of 465
--d0:=D(m0,x)
--E 45

)clear all

--S 46 of 465
t0:=(A+B*x)*(d+e*x)^(3/2)/(a+c*x^2)^(3/2)
--E 46

--S 47 of 465
--r0:=- (a*B-A*c*x)*(d+e*x)^(3/2)/(a*c*sqrt(a+c*x^2))-A*e*sqrt(d+e*x)*_
-- sqrt(a+c*x^2)/(a*c)+elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*_
-- sqrt(-a)+d*sqrt(c))), (-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- (-A*c*d+3*a*B*e+3*B*d*sqrt(-a)*sqrt(c)+A*e*sqrt(-a)*sqrt(c))*_
-- sqrt(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+_
-- d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/_
-- (c^(7/4)*sqrt(-a)*sqrt(a+c*x^2))+ (A*c*d-3*a*B*e)*_
-- elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))),_
-- (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))/(a*c^(7/4)*e*sqrt(a+c*x^2))
--E 47

--S 48 of 465
--d0:=D(m0,x)
--E 48

```

```

)clear all

--S 49 of 465
t0:=(A+B*x)*sqrt(d+e*x)/(a+c*x^2)^(3/2)
--E 49

--S 50 of 465
--r0:=- (a*B-A*c*x)*sqrt(d+e*x)/(a*c*sqrt(a+c*x^2))+elliptic_f(asin(c^(1/4)*_
-- sqrt(d+e*x)/sqrt(-e*sqrt(-a)+d*sqrt(c))),(-e*sqrt(-a)+d*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*(B*sqrt(-a)-A*sqrt(c))*sqrt(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(c^(5/4)*_
-- sqrt(-a)*sqrt(a+c*x^2))+A*elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/_
-- sqrt(e*sqrt(-a)+d*sqrt(c))), (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))*(-e*sqrt(-a)+d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*_
-- sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+_
-- x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(a*c^(3/4)*e*sqrt(a+c*x^2))
--E 50

--S 51 of 465
--d0:=D(m0,x)
--E 51

)clear all

--S 52 of 465
t0:=(A+B*x)/((a+c*x^2)^(3/2)*sqrt(d+e*x))
--E 52

--S 53 of 465
--r0:=- (a*(B*d-A*e)-(A*c*d+a*B*e)*x)*sqrt(d+e*x)/(a*(c*d^2+a*e^2)*_
-- sqrt(a+c*x^2))-elliptic_f(asin(c^(1/4)*sqrt(d+e*x)/sqrt(-e*sqrt(-a)+_
-- d*sqrt(c))),(-e*sqrt(-a)+d*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*(A*c*d+_
-- a*B*e+B*d*sqrt(-a)*sqrt(c)-A*e*sqrt(-a)*sqrt(c))*sqrt(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/(e*sqrt(-a)+d*sqrt(c)))*_
-- sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))/(c^(3/4)*_
-- (c*d^2+a*e^2)*sqrt(-a)*sqrt(a+c*x^2))+(A*c*d+a*B*e)*_
-- elliptic_e(asin(c^(1/4)*sqrt(d+e*x)/sqrt(e*sqrt(-a)+d*sqrt(c))),_
-- (e*sqrt(-a)+d*sqrt(c))/(-e*sqrt(-a)+d*sqrt(c)))*(-e*sqrt(-a)+_
-- d*sqrt(c))*sqrt(e*sqrt(-a)+d*sqrt(c))*sqrt(e*(sqrt(-a)-x*sqrt(c))/_
-- (e*sqrt(-a)+d*sqrt(c)))*sqrt(-e*(sqrt(-a)+x*sqrt(c))/(-e*sqrt(-a)+_
-- d*sqrt(c)))/(a*c^(3/4)*e*(c*d^2+a*e^2)*sqrt(a+c*x^2))
--E 53

--S 54 of 465
--d0:=D(m0,x)
--E 54

)clear all

```

```

--S 55 of 465
t0:=(-a*e+c*d*x)*(d+e*x)^(-3-2*p)*(a+c*x^2)^p
--E 55

--S 56 of 465
r0:=1/2*(a+c*x^2)^(1+p)/((1+p)*(d+e*x)^(2*(1+p)))
--E 56

--S 57 of 465
d0:=normalize(t0-D(r0,x))
--E 57

)clear all

--S 58 of 465
t0:=(b+2*c*x)*(d+e*x)^m*(a+b*x+c*x^2)
--E 58

--S 59 of 465
r0:=(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(d+e*x)^(1+m)/(e^4*(1+m))+
(6*c^2*d^2+_
b^2*e^2-2*c*e*(3*b*d-a*e))*(d+e*x)^(2+m)/(e^4*(2+m))-3*c*(2*c*d-b*e)*_
(d+e*x)^(3+m)/(e^4*(3+m))+2*c^2*(d+e*x)^(4+m)/(e^4*(4+m))
--E 59

--S 60 of 465
d0:=normalize(t0-D(r0,x))
--E 60

)clear all

--S 61 of 465
t0:=(b+2*c*x)*(d+e*x)^4*(a+b*x+c*x^2)
--E 61

--S 62 of 465
r0:=-1/5*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(d+e*x)^5/e^4+1/6*(6*c^2*d^2+_
b^2*e^2-2*c*e*(3*b*d-a*e))*(d+e*x)^6/e^4-3/7*c*(2*c*d-b*e)*(d+e*x)^7/e^4+_
1/4*c^2*(d+e*x)^8/e^4
--E 62

--S 63 of 465
d0:=normalize(t0-D(r0,x))
--E 63

)clear all

--S 64 of 465
t0:=(b+2*c*x)*(d+e*x)^3*(a+b*x+c*x^2)
--E 64

```

```

--S 65 of 465
r0:=-1/4*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(d+e*x)^4/e^4+1/5*(6*c^2*d^2+_
  b^2*e^2-2*c*e*(3*b*d-a*e))*(d+e*x)^5/e^4-1/2*c*(2*c*d-b*e)*(d+e*x)^6/e^4+_
  2/7*c^2*(d+e*x)^7/e^4
--E 65

--S 66 of 465
d0:=normalize(t0-D(r0,x))
--E 66

)clear all

--S 67 of 465
t0:=(b+2*c*x)*(d+e*x)^2*(a+b*x+c*x^2)
--E 67

--S 68 of 465
r0:=-1/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(d+e*x)^3/e^4+1/4*(6*c^2*d^2+_
  b^2*e^2-2*c*e*(3*b*d-a*e))*(d+e*x)^4/e^4-3/5*c*(2*c*d-b*e)*_
  (d+e*x)^5/e^4+1/3*c^2*(d+e*x)^6/e^4
--E 68

--S 69 of 465
d0:=normalize(t0-D(r0,x))
--E 69

)clear all

--S 70 of 465
t0:=(b+2*c*x)*(d+e*x)*(a+b*x+c*x^2)
--E 70

--S 71 of 465
r0:=a*b*d*x+1/2*(b^2*d+2*a*c*d+a*b*e)*x^2+1/3*(3*b*c*d+b^2*e+2*a*c*e)*x^3+_
  1/4*c*(2*c*d+3*b*e)*x^4+2/5*c^2*e*x^5
--E 71

--S 72 of 465
d0:=normalize(t0-D(r0,x))
--E 72

)clear all

--S 73 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)
--E 73

--S 74 of 465
r0:=1/2*(a+b*x+c*x^2)^2
--E 74

```

```

--S 75 of 465
d0:=normalize(t0-D(r0,x))
--E 75

)clear all

--S 76 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)/(d+e*x)
--E 76

--S 77 of 465
r0:=(2*c^2*d^2+b^2*e^2-c*e*(3*b*d-2*a*e))*x/e^3-1/2*c*(2*c*d-3*b*e)*x^2/e^2+_
2/3*c^2*x^3/e-(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*log(d+e*x)/e^4
--E 77

--S 78 of 465
d0:=normalize(t0-D(r0,x))
--E 78

)clear all

--S 79 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)/(d+e*x)^2
--E 79

--S 80 of 465
r0:=-c*(4*c*d-3*b*e)*x/e^3+c^2*x^2/e^2+(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)/_
(e^4*(d+e*x))+ (6*c^2*d^2+b^2*e^2-2*c*e*(3*b*d-a*e))*log(d+e*x)/e^4
--E 80

--S 81 of 465
d0:=normalize(t0-D(r0,x))
--E 81

)clear all

--S 82 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)/(d+e*x)^3
--E 82

--S 83 of 465
r0:=2*c^2*x/e^3+1/2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)/(e^4*(d+e*x)^2)+_
(-6*c^2*d^2-b^2*e^2+2*c*e*(3*b*d-a*e))/(e^4*(d+e*x))-3*c*(2*c*d-b*e)*_
log(d+e*x)/e^4
--E 83

--S 84 of 465
d0:=normalize(t0-D(r0,x))
--E 84

```

```

)clear all

--S 85 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)/(d+e*x)^4
--E 85

--S 86 of 465
r0:=1/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)/(e^4*(d+e*x)^3)+
1/2*(-6*c^2*d^2-b^2*e^2+2*c*e*(3*b*d-a*e))/(e^4*(d+e*x)^2)+
3*c*(2*c*d-b*e)/(e^4*(d+e*x))+2*c^2*log(d+e*x)/e^4
--E 86

--S 87 of 465
d0:=normalize(t0-D(r0,x))
--E 87

)clear all

--S 88 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)/(d+e*x)^5
--E 88

--S 89 of 465
r0:=1/4*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)/(e^4*(d+e*x)^4)+
1/3*(-6*c^2*d^2-b^2*e^2+2*c*e*(3*b*d-a*e))/(e^4*(d+e*x)^3)+
3/2*c*(2*c*d-b*e)/(e^4*(d+e*x)^2)-2*c^2/(e^4*(d+e*x))
--E 89

--S 90 of 465
d0:=normalize(t0-D(r0,x))
--E 90

)clear all

--S 91 of 465
t0:=(b+2*c*x)*(d+e*x)^m*(a+b*x+c*x^2)^2
--E 91

--S 92 of 465
r0:=- (2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2*(d+e*x)^(1+m)/(e^6*(1+m))+
2*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*
(d+e*x)^(2+m)/(e^6*(2+m))- (2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*
(5*b*d-3*a*e))*(d+e*x)^(3+m)/(e^6*(3+m))+4*c*(5*c^2*d^2+b^2*e^2-
c*e*(5*b*d-a*e))*(d+e*x)^(4+m)/(e^6*(4+m))-5*c^2*(2*c*d-b*e)*
(d+e*x)^(5+m)/(e^6*(5+m))+2*c^3*(d+e*x)^(6+m)/(e^6*(6+m))
--E 92

--S 93 of 465
d0:=normalize(t0-D(r0,x))

```

```

--E 93

)clear all

--S 94 of 465
t0:=(b+2*c*x)*(d+e*x)^4*(a+b*x+c*x^2)^2
--E 94

--S 95 of 465
r0:=-1/5*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2*(d+e*x)^5/e^6+1/3*(c*d^2-b*d*e+_
a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*(d+e*x)^6/e^6-1/7*(2*c*d-_
b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*(5*b*d-3*a*e))*(d+e*x)^7/e^6+1/2*c*_
(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*(d+e*x)^8/e^6-5/9*c^2*(2*c*d-b*e)*_
(d+e*x)^9/e^6+1/5*c^3*(d+e*x)^10/e^6
--E 95

--S 96 of 465
d0:=normalize(t0-D(r0,x))
--E 96

)clear all

--S 97 of 465
t0:=(b+2*c*x)*(d+e*x)^3*(a+b*x+c*x^2)^2
--E 97

--S 98 of 465
r0:=-1/4*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2*(d+e*x)^4/e^6+2/5*(c*d^2-_
b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*(d+e*x)^5/e^6-_
1/6*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*(5*b*d-3*a*e))*_
(d+e*x)^6/e^6+4/7*c*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*_
(d+e*x)^7/e^6-5/8*c^2*(2*c*d-b*e)*(d+e*x)^8/e^6+2/9*c^3*(d+e*x)^9/e^6
--E 98

--S 99 of 465
d0:=normalize(t0-D(r0,x))
--E 99

)clear all

--S 100 of 465
t0:=(b+2*c*x)*(d+e*x)^2*(a+b*x+c*x^2)^2
--E 100

--S 101 of 465
r0:=a^2*b*d^2*x+a*d*(b^2*d+a*c*d+a*b*e)*x^2+1/3*(b^3*d^2+4*a*b^2*d*e+_
4*a^2*c*d*e+a*b*(6*c*d^2+a*e^2))*x^3+1/2*(b^3*d*e+6*a*b*c*d*e+b^2*_
(2*c*d^2+a*e^2))+a*c*(2*c*d^2+a*e^2))*x^4+1/5*(8*b^2*c*d*e+_
8*a*c^2*d*e+b^3*e^2+b*c*(5*c*d^2+6*a*e^2))*x^5+1/3*c*(c^2*d^2+_
2*b^2*e^2+c*e*(5*b*d+2*a*e))*x^6+1/7*c^2*e*(4*c*d+5*b*e)*x^7+_

```

```

1/4*c^3*e^2*x^8
--E 101

--S 102 of 465
d0:=normalize(t0-D(r0,x))
--E 102

)clear all

--S 103 of 465
t0:=(b+2*c*x)*(d+e*x)*(a+b*x+c*x^2)^2
--E 103

--S 104 of 465
r0:=a^2*b*d*x+1/2*a*(2*b^2*d+2*a*c*d+a*b*e)*x^2+1/3*(b^3*d+6*a*b*c*d+_
2*a*b^2*e+2*a^2*c*e)*x^3+1/4*(4*b^2*c*d+4*a*c^2*d+b^3*e+6*a*b*c*e)*x^4+_
1/5*c*(5*b*c*d+4*b^2*e+4*a*c*e)*x^5+1/6*c^2*(2*c*d+5*b*e)*x^6+2/7*c^3*e*x^7
--E 104

--S 105 of 465
d0:=normalize(t0-D(r0,x))
--E 105

)clear all

--S 106 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2
--E 106

--S 107 of 465
r0:=1/3*(a+b*x+c*x^2)^3
--E 107

--S 108 of 465
d0:=normalize(t0-D(r0,x))
--E 108

)clear all

--S 109 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2/(d+e*x)
--E 109

--S 110 of 465
r0:=2*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*x/e^5-_
1/2*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*(5*b*d-3*a*e))*_
(d+e*x)^2/e^6+4/3*c*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*(d+e*x)^3/e^6-_
5/4*c^2*(2*c*d-b*e)*(d+e*x)^4/e^6+2/5*c^3*(d+e*x)^5/e^6-(2*c*d-b*e)*_
(c*d^2-b*d*e+a*e^2)^2*log(d+e*x)/e^6
--E 110

```

```

--S 111 of 465
d0:=normalize(t0-D(r0,x))
--E 111

)clear all

--S 112 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2/(d+e*x)^2
--E 112

--S 113 of 465
r0:=- (2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*(5*b*d-3*a*e))*x/e^5+_
(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2/(e^6*(d+e*x))+2*c*(5*c^2*d^2+_
b^2*e^2-c*e*(5*b*d-a*e))*(d+e*x)^2/e^6-5/3*c^2*(2*c*d-b*e)*_
(d+e*x)^3/e^6+1/2*c^3*(d+e*x)^4/e^6+2*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+_
b^2*e^2-c*e*(5*b*d-a*e))*log(d+e*x)/e^6
--E 113

--S 114 of 465
d0:=normalize(t0-D(r0,x))
--E 114

)clear all

--S 115 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2/(d+e*x)^3
--E 115

--S 116 of 465
r0:=c*(12*c^2*d^2+4*b^2*e^2-c*e*(15*b*d-4*a*e))*x/e^5-1/2*c^2*(6*c*d-_
5*b*e)*x^2/e^4+2/3*c^3*x^3/e^3+1/2*(2*c*d-b*e)*(c*d^2-b*d*e+_
a*e^2)^2/(e^6*(d+e*x)^2)-2*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-_
c*e*(5*b*d-a*e))/(e^6*(d+e*x))-(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-_
2*c*e*(5*b*d-3*a*e))*log(d+e*x)/e^6
--E 116

--S 117 of 465
d0:=normalize(t0-D(r0,x))
--E 117

)clear all

--S 118 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2/(d+e*x)^4
--E 118

--S 119 of 465
r0:=-c^2*(8*c*d-5*b*e)*x/e^5+c^3*x^2/e^4+1/3*(2*c*d-b*e)*(c*d^2-_
b*d*e+a*e^2)^2/(e^6*(d+e*x)^3)-(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+_

```

```

b^2*e^2-c*e*(5*b*d-a*e))/(e^6*(d+e*x)^2)+(2*c*d-b*e)*(10*c^2*d^2+_
b^2*e^2-2*c*e*(5*b*d-3*a*e))/(e^6*(d+e*x))+4*c*(5*c^2*d^2+b^2*e^2-_
c*e*(5*b*d-a*e))*log(d+e*x)/e^6
--E 119

--S 120 of 465
d0:=normalize(t0-D(r0,x))
--E 120

)clear all

--S 121 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2/(d+e*x)^5
--E 121

--S 122 of 465
r0:=2*c^3*x/e^5+1/4*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2/(e^6*(d+e*x)^4)-_
2/3*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))/_
(e^6*(d+e*x)^3)+1/2*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*(5*b*d-_
3*a*e))/(e^6*(d+e*x)^2)-4*c*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))/_
(e^6*(d+e*x))-5*c^2*(2*c*d-b*e)*log(d+e*x)/e^6
--E 122

--S 123 of 465
d0:=normalize(t0-D(r0,x))
--E 123

)clear all

--S 124 of 465
t0:=(b+2*c*x)*(d+e*x)^m*(a+b*x+c*x^2)^3
--E 124

--S 125 of 465
r0:=- (2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3*(d+e*x)^(1+m)/(e^8*(1+m))+_
(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*_
(d+e*x)^(2+m)/(e^8*(2+m))-3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*_
(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(3+m)/(e^8*(3+m))+_
(70*c^4*d^4+b^4*e^4-4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*_
(7*b*d-3*a*e)+6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*_
(d+e*x)^(4+m)/(e^8*(4+m))-5*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-_
c*e*(7*b*d-3*a*e))*(d+e*x)^(5+m)/(e^8*(5+m))+3*c^2*(14*c^2*d^2+_
3*b^2*e^2-2*c*e*(7*b*d-a*e))*(d+e*x)^(6+m)/(e^8*(6+m))-_
7*c^3*(2*c*d-b*e)*(d+e*x)^(7+m)/(e^8*(7+m))+2*c^4*(d+e*x)^(8+m)/(e^8*(8+m))
--E 125

--S 126 of 465
d0:=normalize(t0-D(r0,x))
--E 126

```

```

)clear all

--S 127 of 465
t0:=(b+2*c*x)*(d+e*x)^4*(a+b*x+c*x^2)^3
--E 127

--S 128 of 465
r0:=-1/5*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3*(d+e*x)^5/e^8+1/6*(c*d^2-b*d*e+_
a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*(d+e*x)^6/e^8-_
3/7*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-_
3*a*e))*(d+e*x)^7/e^8+1/8*(70*c^4*d^4+b^4*e^4-4*b^2*c*e^3*(5*b*d-_
3*a*e)-20*c^3*d^2*e*(7*b*d-3*a*e)+6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+_
a^2*e^2))*(d+e*x)^8/e^8-5/9*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-_
c*e*(7*b*d-3*a*e))*(d+e*x)^9/e^8+3/10*c^2*(14*c^2*d^2+3*b^2*e^2-_
2*c*e*(7*b*d-a*e))*(d+e*x)^10/e^8-7/11*c^3*(2*c*d-b*e)*_
(d+e*x)^11/e^8+1/6*c^4*(d+e*x)^12/e^8
--E 128

--S 129 of 465
d0:=normalize(t0-D(r0,x))
--E 129

)clear all

--S 130 of 465
t0:=(b+2*c*x)*(d+e*x)^3*(a+b*x+c*x^2)^3
--E 130

--S 131 of 465
r0:=-1/4*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3*(d+e*x)^4/e^8+1/5*(c*d^2-b*d*e+_
a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*(d+e*x)^5/e^8-_
1/2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-_
3*a*e))*(d+e*x)^6/e^8+1/7*(70*c^4*d^4+b^4*e^4-4*b^2*c*e^3*(5*b*d-_
3*a*e)-20*c^3*d^2*e*(7*b*d-3*a*e)+6*c^2*e^2*(15*b^2*d^2-_
10*a*b*d*e+a^2*e^2))*(d+e*x)^7/e^8-5/8*c*(2*c*d-b*e)*(7*c^2*d^2+_
b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^8/e^8+1/3*c^2*(14*c^2*d^2+_
3*b^2*e^2-2*c*e*(7*b*d-a*e))*(d+e*x)^9/e^8-7/10*c^3*(2*c*d-b*e)*_
(d+e*x)^10/e^8+2/11*c^4*(d+e*x)^11/e^8
--E 131

--S 132 of 465
d0:=normalize(t0-D(r0,x))
--E 132

)clear all

--S 133 of 465
t0:=(b+2*c*x)*(d+e*x)^2*(a+b*x+c*x^2)^3
--E 133

```

```

--S 134 of 465
r0:=a^3*b*d^2*x+1/2*a^2*d*(3*b^2*d+2*a*c*d+2*a*b*e)*x^2+1/3*a*(3*b^3*d^2+_
6*a*b^2*d*e+4*a^2*c*d*e+a*b*(9*c*d^2+a*e^2))*x^3+1/4*(b^4*d^2+_
6*a*b^3*d*e+18*a^2*b*c*d*e+2*a^2*c*(3*c*d^2+a*e^2)+3*a*b^2*(4*c*d^2+_
a*e^2))*x^4+1/5*(2*b^4*d*e+24*a*b^2*c*d*e+12*a^2*c^2*d*e+b^3*_
(5*c*d^2+3*a*e^2)+3*a*b*c*(5*c*d^2+3*a*e^2))*x^5+1/6*(10*b^3*c*d*e+_
30*a*b*c^2*d*e+b^4*e^2+6*a*c^2*(c*d^2+a*e^2)+3*b^2*c*(3*c*d^2+_
4*a*e^2))*x^6+1/7*c*(18*b^2*c*d*e+12*a*c^2*d*e+5*b^3*e^2+b*c*_
(7*c*d^2+15*a*e^2))*x^7+1/8*c^2*(2*c^2*d^2+9*b^2*e^2+2*c*e*_
(7*b*d+3*a*e))*x^8+1/9*c^3*e*(4*c*d+7*b*e)*x^9+1/5*c^4*e^2*x^10
--E 134

--S 135 of 465
d0:=normalize(t0-D(r0,x))
--E 135

)clear all

--S 136 of 465
t0:=(b+2*c*x)*(d+e*x)*(a+b*x+c*x^2)^3
--E 136

--S 137 of 465
r0:=a^3*b*d*x+1/2*a^2*(3*b^2*d+2*a*c*d+a*b*e)*x^2+1/3*a*(3*b^3*d+_
9*a*b*c*d+3*a*b^2*e+2*a^2*c*e)*x^3+1/4*(b^4*d+12*a*b^2*c*d+_
6*a^2*c^2*d+3*a*b^3*e+9*a^2*b*c*e)*x^4+1/5*(5*b^3*c*d+15*a*b*c^2*d+_
b^4*e+12*a*b^2*c*e+6*a^2*c^2*e)*x^5+1/6*c*(9*b^2*c*d+6*a*c^2*d+_
5*b^3*e+15*a*b*c*e)*x^6+1/7*c^2*(7*b*c*d+9*b^2*e+6*a*c*e)*x^7+_
1/8*c^3*(2*c*d+7*b*e)*x^8+2/9*c^4*e*x^9
--E 137

--S 138 of 465
d0:=normalize(t0-D(r0,x))
--E 138

)clear all

--S 139 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3
--E 139

--S 140 of 465
r0:=1/4*(a+b*x+c*x^2)^4
--E 140

--S 141 of 465
d0:=normalize(t0-D(r0,x))
--E 141

)clear all

```

```

--S 142 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3/(d+e*x)
--E 142

--S 143 of 465
r0:=(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*x/e^7-
3/2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-
3*a*e))*(d+e*x)^2/e^8+1/3*(70*c^4*d^4+b^4*e^4-4*b^2*c*e^3*(5*b*d-
3*a*e)-20*c^3*d^2*e*(7*b*d-3*a*e)+6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+_
a^2*e^2))*(d+e*x)^3/e^8-5/4*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-
c*e*(7*b*d-3*a*e))*(d+e*x)^4/e^8+3/5*c^2*(14*c^2*d^2+3*b^2*e^2-
2*c*e*(7*b*d-a*e))*(d+e*x)^5/e^8-7/6*c^3*(2*c*d-b*e)*(d+e*x)^6/e^8+_
2/7*c^4*(d+e*x)^7/e^8-(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3*log(d+e*x)/e^8
--E 143

--S 144 of 465
d0:=normalize(t0-D(r0,x))
--E 144

)clear all

--S 145 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3/(d+e*x)^2
--E 145

--S 146 of 465
r0:=-3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-
3*a*e))*x/e^7+(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3/(e^8*(d+e*x))+1/2*_
(70*c^4*d^4+b^4*e^4-4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*(7*b*d-
3*a*e)+6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*(d+e*x)^2/e^8-
5/3*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*_
(d+e*x)^3/e^8+3/4*c^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*_
(d+e*x)^4/e^8-7/5*c^3*(2*c*d-b*e)*(d+e*x)^5/e^8+1/3*c^4*_
(d+e*x)^6/e^8+(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*_
(7*b*d-a*e))*log(d+e*x)/e^8
--E 146

--S 147 of 465
d0:=normalize(t0-D(r0,x))
--E 147

)clear all

--S 148 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3/(d+e*x)^3
--E 148

--S 149 of 465
r0:=(30*c^4*d^4+b^4*e^4-2*c^3*d^2*e*(35*b*d-18*a*e)-3*b^2*c*e^3*_

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(5*b*d-4*a*e)+3*c^2*e^2*(18*b^2*d^2-15*a*b*d*e+2*a^2*e^2))*x/e^7-
1/2*c*(20*c^3*d^3-5*b^3*e^3+3*b*c*e^2*(9*b*d-5*a*e)-6*c^2*d*e*(7*b*d-
3*a*e))*x^2/e^6+c^2*(4*c^2*d^2+3*b^2*e^2-c*e*(7*b*d-2*a*e))*x^3/e^5-
1/4*c^3*(6*c*d-7*b*e)*x^4/e^4+2/5*c^4*x^5/e^3+1/2*(2*c*d-b*e)*(c*d^2-
b*d*e+a*e^2)^3/(e^8*(d+e*x)^2)-(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+
3*b^2*e^2-2*c*e*(7*b*d-a*e))/(e^8*(d+e*x))-3*(2*c*d-b*e)*(c*d^2-
b*d*e+a*e^2)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*log(d+e*x)/e^8
--E 149

--S 150 of 465
d0:=normalize(t0-D(r0,x))
--E 150

)clear all

--S 151 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3/(d+e*x)^4
--E 151

--S 152 of 465
r0:=-5*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*x/e^7+_
1/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3/(e^8*(d+e*x)^3)-1/2*(c*d^2-
b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))/(e^8*(d+e*x)^2)+
3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-
3*a*e))/(e^8*(d+e*x))+3/2*c^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*
(d+e*x)^2/e^8-7/3*c^3*(2*c*d-b*e)*(d+e*x)^3/e^8+1/2*c^4*(d+e*x)^4/e^8+_
(70*c^4*d^4+b^4*e^4-4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*(7*b*d-
3*a*e)+6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*log(d+e*x)/e^8
--E 152

--S 153 of 465
d0:=normalize(t0-D(r0,x))
--E 153

)clear all

--S 154 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3/(d+e*x)^5
--E 154

--S 155 of 465
r0:=c^2*(30*c^2*d^2+9*b^2*e^2-c*e*(35*b*d-6*a*e))*x/e^7-1/2*c^3*_
(10*c*d-7*b*e)*x^2/e^6+2/3*c^4*x^3/e^5+1/4*(2*c*d-b*e)*(c*d^2-
b*d*e+a*e^2)^3/(e^8*(d+e*x)^4)-1/3*(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+
3*b^2*e^2-2*c*e*(7*b*d-a*e))/(e^8*(d+e*x)^3)+3/2*(2*c*d-b*e)*(c*d^2-
b*d*e+a*e^2)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))/(e^8*(d+e*x)^2)+
(-70*c^4*d^4-b^4*e^4+4*b^2*c*e^3*(5*b*d-3*a*e)+20*c^3*d^2*e*(7*b*d-
3*a*e)-6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+a^2*e^2))/(e^8*(d+e*x))-
5*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*log(d+e*x)/e^8
--E 155

```

```

--S 156 of 465
d0:=normalize(t0-D(r0,x))
--E 156

)clear all

--S 157 of 465
t0:=(b+2*c*x)*(d+e*x)^4/(a+b*x+c*x^2)
--E 157

--S 158 of 465
r0:=e*(8*c^3*d^3-b^3*e^3+b*c*e^2*(4*b*d+3*a*e)-2*c^2*d*e*(3*b*d+4*a*e))*_
x/c^3+1/2*e^2*(12*c^2*d^2+b^2*e^2-2*c*e*(2*b*d+a*e))*x^2/c^2+1/3*e^3*_
(8*c*d-b*e)*x^3/c+1/2*e^4*x^4+1/2*(2*c^4*d^4+b^4*e^4-4*b^2*c*e^3*_
(b*d+a*e)-4*c^3*d^2*e*(b*d+3*a*e)+2*c^2*e^2*(3*b^2*d^2+6*a*b*d*e+_
a^2*e^2))*log(a+b*x+c*x^2)/c^4-e*(2*c*d-b*e)*(2*c^2*d^2+b^2*e^2-_
2*c*e*(b*d+a*e))*atanh((b+2*c*x)/sqrt(b^2-4*a*c))*sqrt(b^2-4*a*c)/c^4
--E 158

--S 159 of 465
d0:=normalize(t0-D(r0,x))
--E 159

)clear all

--S 160 of 465
t0:=(b+2*c*x)*(d+e*x)^3/(a+b*x+c*x^2)
--E 160

--S 161 of 465
r0:=e*(6*c^2*d^2+b^2*e^2-c*e*(3*b*d+2*a*e))*x/c^2+1/2*e^2*(6*c*d-b*e)*x^2/c+_
2/3*e^3*x^3+1/2*(2*c*d-b*e)*(c^2*d^2+b^2*e^2-c*e*(b*d+3*a*e))*log(a+b*x+_
c*x^2)/c^3-e*(3*c^2*d^2+b^2*e^2-c*e*(3*b*d+a*e))*atanh((b+2*c*x)/_
sqrt(b^2-4*a*c))*sqrt(b^2-4*a*c)/c^3
--E 161

--S 162 of 465
d0:=normalize(t0-D(r0,x))
--E 162

)clear all

--S 163 of 465
t0:=(b+2*c*x)*(d+e*x)^2/(a+b*x+c*x^2)
--E 163

--S 164 of 465
r0:=e*(4*d-b*e/c)*x+e^2*x^2+1/2*(2*c^2*d^2+b^2*e^2-2*c*e*(b*d+a*e))*_
log(a+b*x+c*x^2)/c^2-e*(2*c*d-b*e)*atanh((b+2*c*x)/sqrt(b^2-4*a*c))*_

```

```

sqrt(b^2-4*a*c)/c^2
--E 164

--S 165 of 465
d0:=normalize(t0-D(r0,x))
--E 165

)clear all

--S 166 of 465
t0:=(b+2*c*x)*(d+e*x)/(a+b*x+c*x^2)
--E 166

--S 167 of 465
r0:=2*e*x+1/2*(2*c*d-b*e)*log(a+b*x+c*x^2)/c-e*atanh((b+2*c*x)/_
sqrt(b^2-4*a*c))*sqrt(b^2-4*a*c)/c
--E 167

--S 168 of 465
d0:=normalize(t0-D(r0,x))
--E 168

)clear all

--S 169 of 465
t0:=(b+2*c*x)/(a+b*x+c*x^2)
--E 169

--S 170 of 465
r0:=log(a+b*x+c*x^2)
--E 170

--S 171 of 465
d0:=normalize(t0-D(r0,x))
--E 171

)clear all

--S 172 of 465
t0:=(b+2*c*x)/((d+e*x)*(a+b*x+c*x^2))
--E 172

--S 173 of 465
r0:=- (2*c*d-b*e)*log(d+e*x)/(c*d^2-b*d*e+a*e^2)+1/2*(2*c*d-b*e)*log(a+b*x+_
c*x^2)/(c*d^2-b*d*e+a*e^2)+e*atanh((b+2*c*x)/sqrt(b^2-4*a*c))*sqrt(b^2-_
4*a*c)/(c*d^2-b*d*e+a*e^2)
--E 173

--S 174 of 465
d0:=normalize(t0-D(r0,x))

```

```

--E 174

)clear all

--S 175 of 465
t0:=(b+2*c*x)/((d+e*x)^2*(a+b*x+c*x^2))
--E 175

--S 176 of 465
r0:=(2*c*d-b*e)/((c*d^2-b*d*e+a*e^2)*(d+e*x))-(2*c^2*d^2+b^2*e^2-
2*c*e*(b*d+a*e))*log(d+e*x)/(c*d^2-b*d*e+a*e^2)^2+1/2*(2*c^2*d^2+
b^2*e^2-2*c*e*(b*d+a*e))*log(a+b*x+c*x^2)/(c*d^2-b*d*e+a*e^2)^2+
e*(2*c*d-b*e)*atanh((b+2*c*x)/sqrt(b^2-4*a*c))*sqrt(b^2-4*a*c)/
(c*d^2-b*d*e+a*e^2)^2
--E 176

--S 177 of 465
d0:=normalize(t0-D(r0,x))
--E 177

)clear all

--S 178 of 465
t0:=(b+2*c*x)/((d+e*x)^3*(a+b*x+c*x^2))
--E 178

--S 179 of 465
r0:=1/2*(2*c*d-b*e)/((c*d^2-b*d*e+a*e^2)*(d+e*x)^2)+(2*c^2*d^2+b^2*e^2-
2*c*e*(b*d+a*e))/((c*d^2-b*d*e+a*e^2)^2*(d+e*x))-(2*c*d-b*e)*(c^2*d^2+
b^2*e^2-c*e*(b*d+3*a*e))*log(d+e*x)/(c*d^2-b*d*e+a*e^2)^3+1/2*(2*c*d-
b*e)*(c^2*d^2+b^2*e^2-c*e*(b*d+3*a*e))*log(a+b*x+c*x^2)/(c*d^2-b*d*e+
a*e^2)^3+e*(3*c^2*d^2+b^2*e^2-c*e*(3*b*d+a*e))*atanh((b+2*c*x)/
sqrt(b^2-4*a*c))*sqrt(b^2-4*a*c)/(c*d^2-b*d*e+a*e^2)^3
--E 179

--S 180 of 465
d0:=normalize(t0-D(r0,x))
--E 180

)clear all

--S 181 of 465
t0:=(b+2*c*x)*(d+e*x)^4/(a+b*x+c*x^2)^2
--E 181

--S 182 of 465
r0:=4*e^3*(3*c*d-b*e)*x/c^2+2*e^4*x^2/c-(d+e*x)^4/(a+b*x+c*x^2)+
2*e^2*(3*c^2*d^2+b^2*e^2-c*e*(3*b*d+a*e))*log(a+b*x+c*x^2)/c^3-
4*e*(2*c*d-b*e)*(c^2*d^2+b^2*e^2-c*e*(b*d+3*a*e))*atanh((b+2*c*x)/
sqrt(b^2-4*a*c))/(c^3*sqrt(b^2-4*a*c))

```

```

--E 182

--S 183 of 465
d0:=normalize(t0-D(r0,x))
--E 183

)clear all

--S 184 of 465
t0:=(b+2*c*x)*(d+e*x)^3/(a+b*x+c*x^2)^2
--E 184

--S 185 of 465
r0:=3*e^3*x/c-(d+e*x)^3/(a+b*x+c*x^2)+3/2*e^2*(2*c*d-b*e)*_
  log(a+b*x+c*x^2)/c^2-3*e*(2*c^2*d^2+b^2*e^2-2*c*e*(b*d+a*e))*_
  atanh((b+2*c*x)/sqrt(b^2-4*a*c))/(c^2*sqrt(b^2-4*a*c))
--E 185

--S 186 of 465
d0:=normalize(t0-D(r0,x))
--E 186

)clear all

--S 187 of 465
t0:=(b+2*c*x)*(d+e*x)^2/(a+b*x+c*x^2)^2
--E 187

--S 188 of 465
r0:=- (d+e*x)^2/(a+b*x+c*x^2)+e^2*log(a+b*x+c*x^2)/c-2*e*(2*c*d-b*e)*_
  atanh((b+2*c*x)/sqrt(b^2-4*a*c))/(c*sqrt(b^2-4*a*c))
--E 188

--S 189 of 465
d0:=normalize(t0-D(r0,x))
--E 189

)clear all

--S 190 of 465
t0:=(b+2*c*x)*(d+e*x)/(a+b*x+c*x^2)^2
--E 190

--S 191 of 465
r0:=(-d-e*x)/(a+b*x+c*x^2)-2*e*atanh((b+2*c*x)/sqrt(b^2-4*a*c))/sqrt(b^2-4*a*c)
--E 191

--S 192 of 465
d0:=normalize(t0-D(r0,x))
--E 192

```

```

)clear all

--S 193 of 465
t0:=(b+2*c*x)/(a+b*x+c*x^2)^2
--E 193

--S 194 of 465
r0:=(-1)/(a+b*x+c*x^2)
--E 194

--S 195 of 465
d0:=normalize(t0-D(r0,x))
--E 195

)clear all

--S 196 of 465
t0:=(b+2*c*x)/((d+e*x)*(a+b*x+c*x^2)^2)
--E 196

--S 197 of 465
r0:=(-(b^2-4*a*c)*(c*d-b*e)+c*(b^2-4*a*c)*e*x)/((b^2-4*a*c)*_
(c*d^2-b*d*e+a*e^2)*(a+b*x+c*x^2))-e^2*(2*c*d-b*e)*log(d+e*x)/_
(c*d^2-b*d*e+a*e^2)^2+1/2*e^2*(2*c*d-b*e)*log(a+b*x+c*x^2)/_
(c*d^2-b*d*e+a*e^2)^2+e*(2*c^2*d^2+b^2*e^2-2*c*e*(b*d+a*e))*_
atanh((b+2*c*x)/sqrt(b^2-4*a*c))/((c*d^2-b*d*e+a*e^2)^2*sqrt(b^2-4*a*c))
--E 197

--S 198 of 465
d0:=normalize(t0-D(r0,x))
--E 198

)clear all

--S 199 of 465
t0:=(b+2*c*x)/((d+e*x)^2*(a+b*x+c*x^2)^2)
--E 199

--S 200 of 465
r0:=2*e^2*(2*c*d-b*e)/((c*d^2-b*d*e+a*e^2)^2*(d+e*x))+(-(b^2-4*a*c)*_
(c*d-b*e)+c*(b^2-4*a*c)*e*x)/((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)*(d+e*x)*_
(a+b*x+c*x^2))-2*e^2*(3*c^2*d^2+b^2*e^2-c*e*(3*b*d+a*e))*log(d+e*x)/_
(c*d^2-b*d*e+a*e^2)^3+e^2*(3*c^2*d^2+b^2*e^2-c*e*(3*b*d+a*e))*_
log(a+b*x+c*x^2)/(c*d^2-b*d*e+a*e^2)^3+2*e*(2*c*d-b*e)*(c^2*d^2+_
b^2*e^2-c*e*(b*d+3*a*e))*atanh((b+2*c*x)/sqrt(b^2-4*a*c))/_
((c*d^2-b*d*e+a*e^2)^3*sqrt(b^2-4*a*c))
--E 200

--S 201 of 465

```

```

d0:=normalize(t0-D(r0,x))
--E 201

)clear all

--S 202 of 465
t0:=(b+2*c*x)*(d+e*x)^5/(a+b*x+c*x^2)^3
--E 202

--S 203 of 465
r0:=5*e^3*(3*c^2*d^2+b^2*e^2-c*e*(2*b*d+3*a*e))*x/(c^2*(b^2-4*a*c))+
5/2*e^4*(2*c*d-b*e)*x^2/(c*(b^2-4*a*c))-1/2*(d+e*x)^5/(a+b*x+c*x^2)^2-
5/2*e*(d+e*x)^3*(b*d-2*a*e+(2*c*d-b*e)*x)/((b^2-4*a*c)*(a+b*x+c*x^2))+
5*e*(2*c^4*d^4-b^4*e^4-4*c^3*d^2*e*(b*d-3*a*e)-6*a*c^2*e^3*(2*b*d+a*e)+
2*b^2*c*e^3*(b*d+3*a*e))*atanh((b+2*c*x)/sqrt(b^2-4*a*c))/(c^3*(b^2-
4*a*c)^(3/2))+5/2*e^4*(2*c*d-b*e)*log(a+b*x+c*x^2)/c^3
--E 203

--S 204 of 465
d0:=normalize(t0-D(r0,x))
--E 204

)clear all

--S 205 of 465
t0:=(b+2*c*x)*(d+e*x)^4/(a+b*x+c*x^2)^3
--E 205

--S 206 of 465
r0:=2*e^3*(2*c*d-b*e)*x/(c*(b^2-4*a*c))-1/2*(d+e*x)^4/(a+b*x+c*x^2)^2-
2*e*(d+e*x)^2*(b*d-2*a*e+(2*c*d-b*e)*x)/((b^2-4*a*c)*(a+b*x+c*x^2))+
2*e*(2*c*d-b*e)*(2*c^2*d^2-b^2*e^2-2*c*e*(b*d-3*a*e))*atanh((b+2*c*x)/
sqrt(b^2-4*a*c))/(c^2*(b^2-4*a*c)^(3/2))+e^4*log(a+b*x+c*x^2)/c^2
--E 206

--S 207 of 465
d0:=normalize(t0-D(r0,x))
--E 207

)clear all

--S 208 of 465
t0:=(b+2*c*x)*(d+e*x)^3/(a+b*x+c*x^2)^3
--E 208

--S 209 of 465
r0:=-1/2*(d+e*x)^3/(a+b*x+c*x^2)^2-3/2*e*(d+e*x)*(b*d-2*a*e+(2*c*d-b*e)*x)/
((b^2-4*a*c)*(a+b*x+c*x^2))+6*e*(c*d^2-b*d*e+a*e^2)*atanh((b+2*c*x)/
sqrt(b^2-4*a*c))/(b^2-4*a*c)^(3/2)
--E 209

```

```

--S 210 of 465
d0:=normalize(t0-D(r0,x))
--E 210

)clear all

--S 211 of 465
t0:=(b+2*c*x)*(d+e*x)^2/(a+b*x+c*x^2)^3
--E 211

--S 212 of 465
r0:=-1/2*(d+e*x)^2/(a+b*x+c*x^2)^2-e*(b*d-2*a*e+(2*c*d-b*e)*x)/((b^2-4*a*c)*_
(a+b*x+c*x^2))+2*e*(2*c*d-b*e)*atanh((b+2*c*x)/sqrt(b^2-4*a*c))/_
(b^2-4*a*c)^(3/2)
--E 212

--S 213 of 465
d0:=normalize(t0-D(r0,x))
--E 213

)clear all

--S 214 of 465
t0:=(b+2*c*x)*(d+e*x)/(a+b*x+c*x^2)^3
--E 214

--S 215 of 465
r0:=1/2*(-d-e*x)/(a+b*x+c*x^2)^2-1/2*e*(b+2*c*x)/((b^2-4*a*c)*_
(a+b*x+c*x^2))+2*c*e*atanh((b+2*c*x)/sqrt(b^2-4*a*c))/(b^2-4*a*c)^(3/2)
--E 215

--S 216 of 465
d0:=normalize(t0-D(r0,x))
--E 216

)clear all

--S 217 of 465
t0:=(b+2*c*x)/(a+b*x+c*x^2)^3
--E 217

--S 218 of 465
r0:=(-1/2)/(a+b*x+c*x^2)^2
--E 218

--S 219 of 465
d0:=normalize(t0-D(r0,x))
--E 219

```

```

)clear all

--S 220 of 465
t0:=(b+2*c*x)/((d+e*x)*(a+b*x+c*x^2)^3)
--E 220

--S 221 of 465
r0:=1/2*(-(b^2-4*a*c)*(c*d-b*e)+c*(b^2-4*a*c)*e*x)/((b^2-4*a*c)*_
(c*d^2-b*d*e+a*e^2)*(a+b*x+c*x^2)^2)-1/2*e*(3*b^2*c*d*e-8*a*c^2*d*e-_
2*b^3*e^2-b*c*(c*d^2-7*a*e^2)-2*c*(c^2*d^2+b^2*e^2-c*e*(b*d+3*a*e))*x)/_
((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)^2*(a+b*x+c*x^2))-e*(2*c^4*d^4-b^4*e^4-_
4*c^3*d^2*e*(b*d-3*a*e)-6*a*c^2*e^3*(2*b*d+a*e)+2*b^2*c*e^3*_
(b*d+3*a*e))*atanh((b+2*c*x)/sqrt(b^2-4*a*c))/((b^2-4*a*c)^(3/2))*_
(c*d^2-b*d*e+a*e^2)^3)-e^4*(2*c*d-b*e)*log(d+e*x)/(c*d^2-b*d*e+a*e^2)^3+_
1/2*e^4*(2*c*d-b*e)*log(a+b*x+c*x^2)/(c*d^2-b*d*e+a*e^2)^3
--E 221

--S 222 of 465
d0:=normalize(t0-D(r0,x))
--E 222

)clear all

--S 223 of 465
t0:=(b+2*c*x)*(d+e*x)^4*sqrt(a+b*x+c*x^2)
--E 223

--S 224 of 465
r0:=1/1680*(128*c^4*d^4+105*b^4*e^4-16*c^3*d^2*e*(16*b*d+93*a*e)-_
4*b^2*c*e^3*(109*b*d+101*a*e)+4*c^2*e^2*(141*b^2*d^2+372*a*b*d*e+_
16*a^2*e^2))*(a+b*x+c*x^2)^(3/2)/c^4+1/35*(4*c^2*d^2+3*b^2*e^2-_
4*c*e*(b*d+2*a*e))*(d+e*x)^2*(a+b*x+c*x^2)^(3/2)/c^2+2/21*(2*c*d-b*e)*_
(d+e*x)^3*(a+b*x+c*x^2)^(3/2)/c+2/7*(d+e*x)^4*(a+b*x+c*x^2)^(3/2)-_
1/280*e*(9*b^3*d*e^2+8*a*c*e*(17*c*d^2-4*a*e^2)-4*b*c*d*(2*c*d^2+_
15*a*e^2)-b^2*(22*c*d^2*e-12*a*e^3)-(2*c*d-b*e)*(8*c^2*d^2+_
21*b^2*e^2-4*c*e*(2*b*d+19*a*e))*x*(a+b*x+c*x^2)^(3/2)/c^3-_
1/256*(b^2-4*a*c)^2*e*(2*c*d-b*e)*(8*c^2*d^2+3*b^2*e^2-_
4*c*e*(2*b*d+a*e))*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/_
c^(11/2)+1/128*(b^2-4*a*c)*e*(2*c*d-b*e)*(8*c^2*d^2+3*b^2*e^2-_
4*c*e*(2*b*d+a*e))*(b+2*c*x)*sqrt(a+b*x+c*x^2)/c^5
--E 224

--S 225 of 465
d0:=normalize(t0-D(r0,x))
--E 225

)clear all

--S 226 of 465
t0:=(b+2*c*x)*(d+e*x)^3*sqrt(a+b*x+c*x^2)

```

--E 226

--S 227 of 465

```
r0:=1/480*(2*c*d-b*e)*(32*c^2*d^2+35*b^2*e^2-4*c*e*(8*b*d+27*a*e))*_
(a+b*x+c*x^2)^(3/2)/c^3+1/10*(2*c*d-b*e)*(d+e*x)^2*_
(a+b*x+c*x^2)^(3/2)/c+1/3*(d+e*x)^3*(a+b*x+c*x^2)^(3/2)+1/80*e*_
(3*b^2*d*e-28*a*c*d*e+4*b*(c*d^2+a*e^2)+(8*c^2*d^2+7*b^2*e^2-4*c*e*_
(2*b*d+5*a*e))*x)*(a+b*x+c*x^2)^(3/2)/c^2-1/512*(b^2-4*a*c)^2*e*_
(24*c^2*d^2+7*b^2*e^2-4*c*e*(6*b*d+a*e))*atanh(1/2*(b+2*c*x)/_
(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(9/2)+1/256*(b^2-4*a*c)*e*(24*c^2*d^2+_
7*b^2*e^2-4*c*e*(6*b*d+a*e))*(b+2*c*x)*sqrt(a+b*x+c*x^2)/c^4
```

--E 227

--S 228 of 465

```
d0:=normalize(t0-D(r0,x))
--E 228
```

)clear all

--S 229 of 465

```
t0:=(b+2*c*x)*(d+e*x)^2*sqrt(a+b*x+c*x^2)
--E 229
```

--S 230 of 465

```
r0:=1/60*(16*c^2*d^2+5*b^2*e^2-4*c*e*(4*b*d+a*e))*(a+b*x+c*x^2)^(3/2)/c^2+_
2/5*(d+e*x)^2*(a+b*x+c*x^2)^(3/2)+1/10*e*(b*d-2*a*e+(2*c*d-b*e)*x)*_
(a+b*x+c*x^2)^(3/2)/c-1/64*(b^2-4*a*c)^2*e*(2*c*d-b*e)*atanh(1/2*(b+_
2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(7/2)+1/32*(b^2-4*a*c)*e*(2*c*d-_
b*e)*(b+2*c*x)*sqrt(a+b*x+c*x^2)/c^3
--E 230
```

--S 231 of 465

```
d0:=normalize(t0-D(r0,x))
--E 231
```

)clear all

--S 232 of 465

```
t0:=(b+2*c*x)*(d+e*x)*sqrt(a+b*x+c*x^2)
--E 232
```

--S 233 of 465

```
r0:=1/12*(2*c*d-b*e)*(a+b*x+c*x^2)^(3/2)/c+1/2*(d+e*x)*(a+b*x+c*x^2)^(3/2)-_
1/64*(b^2-4*a*c)^2*e*atanh(1/2*(b+2*c*x)/(sqrt(c)*_
sqrt(a+b*x+c*x^2)))/c^(5/2)+1/32*(b^2-4*a*c)*e*(b+2*c*x)*_
sqrt(a+b*x+c*x^2)/c^2
--E 233
```

--S 234 of 465

```
d0:=normalize(t0-D(r0,x))
```

```

--E 234

)clear all

--S 235 of 465
t0:=(b+2*c*x)*sqrt(a+b*x+c*x^2)
--E 235

--S 236 of 465
r0:=2/3*(a+b*x+c*x^2)^(3/2)
--E 236

--S 237 of 465
d0:=normalize(t0-D(r0,x))
--E 237

)clear all

--S 238 of 465
t0:=(b+2*c*x)*sqrt(a+b*x+c*x^2)/(d+e*x)
--E 238

--S 239 of 465
r0:=1/4*(8*c^2*d^2+b^2*e^2-4*c*e*(2*b*d-a*e))*atanh(1/2*(b+2*c*x)/(sqrt(c)*_
sqrt(a+b*x+c*x^2)))/(e^3*sqrt(c))-(2*c*d-b*e)*atanh(1/2*(b*d-2*a*e+_
(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))*sqrt(c*d^2-_
b*d*e+a*e^2)/e^3-1/2*(4*c*d-3*b*e-2*c*e*x)*sqrt(a+b*x+c*x^2)/e^2
--E 239

--S 240 of 465
d0:=normalize(t0-D(r0,x))
--E 240

)clear all

--S 241 of 465
t0:=(b+2*c*x)*sqrt(a+b*x+c*x^2)/(d+e*x)^2
--E 241

--S 242 of 465
r0:=-2*(2*c*d-b*e)*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))*_
sqrt(c)/e^3+1/2*(8*c^2*d^2+b^2*e^2-4*c*e*(2*b*d-a*e))*atanh(1/2*_
(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/_
(e^3*sqrt(c*d^2-b*d*e+a*e^2))+(4*c*d-b*e+2*c*e*x)*sqrt(a+b*x+c*x^2)/_
(e^2*(d+e*x))
--E 242

--S 243 of 465
d0:=normalize(t0-D(r0,x))
--E 243

```

```

)clear all

--S 244 of 465
t0:=(b+2*c*x)*sqrt(a+b*x+c*x^2)/(d+e*x)^3
--E 244

--S 245 of 465
r0:=1/2*(2*c*d-b*e)*(a+b*x+c*x^2)^(3/2)/((c*d^2-b*d*e+a*e^2)*(d+e*x)^2)+_
2*c^(3/2)*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/e^3-_
1/8*(2*c*d-b*e)*(8*c^2*d^2-b^2*e^2-4*c*e*(2*b*d-3*a*e))*atanh(1/2*_
(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/_
(e^3*(c*d^2-b*d*e+a*e^2)^(3/2))-1/4*(8*c^2*d^2-6*b*c*d*e-b^2*e^2+_
8*a*c*e^2+2*c*e*(2*c*d-b*e)*x)*sqrt(a+b*x+c*x^2)/(e^2*(c*d^2-_
b*d*e+a*e^2)*(d+e*x))
--E 245

--S 246 of 465
d0:=normalize(t0-D(r0,x))
--E 246

)clear all

--S 247 of 465
t0:=(b+2*c*x)*sqrt(a+b*x+c*x^2)/(d+e*x)^4
--E 247

--S 248 of 465
r0:=1/16*(b^2-4*a*c)^2*e*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-_
b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/(c*d^2-b*d*e+a*e^2)^(5/2)+_
1/12*(8*c^2*d^2-b^2*e^2-4*c*e*(2*b*d-3*a*e))*sqrt(a+b*x+c*x^2)/_
(e^2*(c*d^2-b*d*e+a*e^2)*(d+e*x)^2)+1/24*(2*c*d-b*e)*(8*c^2*d^2-_
3*b^2*e^2-4*c*e*(2*b*d-5*a*e))*sqrt(a+b*x+c*x^2)/(e^2*(c*d^2-_
b*d*e+a*e^2)^2*(d+e*x))-1/3*(4*c*d+b*e+6*c*e*x)*sqrt(a+b*x+c*x^2)/_
(e^2*(d+e*x)^3)
--E 248

--S 249 of 465
d0:=normalize(t0-D(r0,x))
--E 249

)clear all

--S 250 of 465
t0:=(b+2*c*x)*sqrt(a+b*x+c*x^2)/(d+e*x)^5
--E 250

--S 251 of 465
r0:=5/128*(b^2-4*a*c)^2*e*(2*c*d-b*e)*atanh(1/2*(b*d-2*a*e+_
(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/_

```

```

(c*d^2-b*d*e+a*e^2)^(7/2)+1/24*(4*c^2*d^2-b^2*e^2-4*c*e*(b*d-2*a*e))*_
sqrt(a+b*x+c*x^2)/(e^2*(c*d^2-b*d*e+a*e^2)*(d+e*x)^3)+_
1/96*(2*c*d-b*e)*(8*c^2*d^2-5*b^2*e^2-4*c*e*(2*b*d-7*a*e))*_
sqrt(a+b*x+c*x^2)/(e^2*(c*d^2-b*d*e+a*e^2)^2*(d+e*x)^2)+_
1/192*(32*c^4*d^4-15*b^4*e^4-16*c^3*d^2*e*(4*b*d-9*a*e)+_
20*b^2*c*e^3*(b*d+5*a*e)+4*c^2*e^2*(3*b^2*d^2-36*a*b*d*e-32*a^2*e^2))*_
sqrt(a+b*x+c*x^2)/(e^2*(c*d^2-b*d*e+a*e^2)^3*(d+e*x))-1/4*(2*c*d+b*e+_
4*c*e*x)*sqrt(a+b*x+c*x^2)/(e^2*(d+e*x)^4)
--E 251

--S 252 of 465
d0:=normalize(t0-D(r0,x))
--E 252

)clear all

--S 253 of 465
t0:=(b+2*c*x)*(d+e*x)^3*(a+b*x+c*x^2)^(3/2)
--E 253

--S 254 of 465
r0:=1/1024*(b^2-4*a*c)*e*(32*c^2*d^2+9*b^2*e^2-4*c*e*(8*b*d+a*e))*_
(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/c^4+3/2240*(2*c*d-b*e)*(16*c^2*d^2+_
21*b^2*e^2-4*c*e*(4*b*d+17*a*e))*(a+b*x+c*x^2)^(5/2)/c^3+3/56*(2*c*d-_
b*e)*(d+e*x)^2*(a+b*x+c*x^2)^(5/2)/c+1/4*(d+e*x)^3*(a+b*x+c*x^2)^(5/2)+_
1/224*e*(5*b^2*d*e-36*a*c*d*e+4*b*(c*d^2+a*e^2)+(8*c^2*d^2+9*b^2*e^2-_
4*c*e*(2*b*d+7*a*e))*x)*(a+b*x+c*x^2)^(5/2)/c^2+3/16384*(b^2-4*a*c)^3*_
e*(32*c^2*d^2+9*b^2*e^2-4*c*e*(8*b*d+a*e))*atanh(1/2*(b+2*c*x)/_
(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(11/2)-3/8192*(b^2-4*a*c)^2*e*(32*c^2*_
d^2+9*b^2*e^2-4*c*e*(8*b*d+a*e))*(b+2*c*x)*sqrt(a+b*x+c*x^2)/c^5
--E 254

--S 255 of 465
d0:=normalize(t0-D(r0,x))
--E 255

)clear all

--S 256 of 465
t0:=(b+2*c*x)*(d+e*x)^2*(a+b*x+c*x^2)^(3/2)
--E 256

--S 257 of 465
r0:=1/96*(b^2-4*a*c)*e*(2*c*d-b*e)*(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/c^3+_
1/210*(24*c^2*d^2+7*b^2*e^2-4*c*e*(6*b*d+a*e))*(a+b*x+c*x^2)^(5/2)/c^2+_
2/7*(d+e*x)^2*(a+b*x+c*x^2)^(5/2)+1/21*e*(b*d-2*a*e+(2*c*d-b*e)*x)*_
(a+b*x+c*x^2)^(5/2)/c+1/512*(b^2-4*a*c)^3*e*(2*c*d-b*e)*atanh(1/2*_
(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(9/2)-1/256*(b^2-4*a*c)^2*e*_
(2*c*d-b*e)*(b+2*c*x)*sqrt(a+b*x+c*x^2)/c^4
--E 257

```

```

--S 258 of 465
d0:=normalize(t0-D(r0,x))
--E 258

)clear all

--S 259 of 465
t0:=(b+2*c*x)*(d+e*x)*(a+b*x+c*x^2)^(3/2)
--E 259

--S 260 of 465
r0:=1/96*(b^2-4*a*c)*e*(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/c^2+1/30*(2*c*d-b*e)*_
(a+b*x+c*x^2)^(5/2)/c+1/3*(d+e*x)*(a+b*x+c*x^2)^(5/2)+1/512*(b^2-4*a*c)^3*_
e*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(7/2)-1/256*(b^2-_
4*a*c)^2*e*(b+2*c*x)*sqrt(a+b*x+c*x^2)/c^3
--E 260

--S 261 of 465
d0:=normalize(t0-D(r0,x))
--E 261

)clear all

--S 262 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(3/2)
--E 262

--S 263 of 465
r0:=2/5*(a+b*x+c*x^2)^(5/2)
--E 263

--S 264 of 465
d0:=normalize(t0-D(r0,x))
--E 264

)clear all

--S 265 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/(d+e*x)
--E 265

--S 266 of 465
r0:=-1/12*(8*c*d-7*b*e-6*c*e*x)*(a+b*x+c*x^2)^(3/2)/e^2+1/64*(128*c^4*d^4-_
b^4*e^4-8*b^2*c*e^3*(2*b*d-3*a*e)-64*c^3*d^2*e*(4*b*d-3*a*e)+48*c^2*_
e^2*(3*b^2*d^2-4*a*b*d*e+a^2*e^2))*atanh(1/2*(b+2*c*x)/(sqrt(c)*_
sqrt(a+b*x+c*x^2)))/(c^(3/2)*e^5)-(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^(3/2)*_
atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2))*_
sqrt(a+b*x+c*x^2))/e^5-1/32*(64*c^3*d^3-b^3*e^3+4*b*c*e^2*(12*b*d-_
11*a*e)-16*c^2*d*e*(7*b*d-4*a*e)-2*c*e*(16*c^2*d^2+b^2*e^2-_

```

```

4*c*e*(4*b*d-3*a*e))*x)*sqrt(a+b*x+c*x^2)/(c*e^4)
--E 266

--S 267 of 465
d0:=normalize(t0-D(r0,x))
--E 267

)clear all

--S 268 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/(d+e*x)^2
--E 268

--S 269 of 465
r0:=1/3*(8*c*d-3*b*e+2*c*e*x)*(a+b*x+c*x^2)^(3/2)/(e^2*(d+e*x))-
1/4*(2*c*d-b*e)*(16*c^2*d^2+b^2*e^2-4*c*e*(4*b*d-3*a*e))*atanh(1/2*_
(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/(e^5*sqrt(c))+1/2*(16*c^2*d^2+_
3*b^2*e^2-4*c*e*(4*b*d-a*e))*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/_
(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))*sqrt(c*d^2-b*d*e+a*e^2)/e^5+_
1/2*(16*c^2*d^2+5*b^2*e^2-4*c*e*(5*b*d-a*e)-4*c*e*(2*c*d-b*e)*x)*_
sqrt(a+b*x+c*x^2)/e^4
--E 269

--S 270 of 465
d0:=normalize(t0-D(r0,x))
--E 270

)clear all

--S 271 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/(d+e*x)^3
--E 271

--S 272 of 465
r0:=1/2*(4*c*d-b*e+2*c*e*x)*(a+b*x+c*x^2)^(3/2)/(e^2*(d+e*x)^2)+
3/4*(16*c^2*d^2+3*b^2*e^2-4*c*e*(4*b*d-a*e))*atanh(1/2*(b+2*c*x)/_
(sqrt(c)*sqrt(a+b*x+c*x^2)))*sqrt(c)/e^5-3/8*(2*c*d-b*e)*(16*c^2*d^2+_
b^2*e^2-4*c*e*(4*b*d-3*a*e))*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/_
(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/(e^5*sqrt(c*d^2-b*d*e+_
a*e^2))-3/4*(16*c^2*d^2+b^2*e^2-4*c*e*(3*b*d-a*e)+4*c*e*(2*c*d-b*e)*x)*_
sqrt(a+b*x+c*x^2)/(e^4*(d+e*x))
--E 272

--S 273 of 465
d0:=normalize(t0-D(r0,x))
--E 273

)clear all

--S 274 of 465

```

```
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/(d+e*x)^4
--E 274
```

```
--S 275 of 465
r0:=-1/4*(16*c^2*d^2+b^2*e^2-4*c*e*(4*b*d-3*a*e))*(a+b*x+c*x^2)^(3/2)/_
(e^2*(c*d^2-b*d*e+a*e^2)*(d+e*x)^2)+1/3*(8*c*d-b*e+6*c*e*x)*(a+b*x+_
c*x^2)^(3/2)/(e^2*(d+e*x)^3)-4*c^(3/2)*(2*c*d-b*e)*atanh(1/2*_
(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/e^5+1/16*(128*c^4*d^4-b^4*e^4-_
8*b^2*c*e^3*(2*b*d-3*a*e)-64*c^3*d^2*e*(4*b*d-3*a*e)+48*c^2*e^2*_
(3*b^2*d^2-4*a*b*d*e+a^2*e^2))*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/_
(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/(e^5*(c*d^2-b*d*e+_
a*e^2)^(3/2))+1/8*(64*c^3*d^3+b^3*e^3+4*b*c*e^2*(4*b*d-5*a*e)-_
16*c^2*d*e*(5*b*d-4*a*e)+2*c*e*(16*c^2*d^2+b^2*e^2-4*c*e*(4*b*d-_
3*a*e))*x)*sqrt(a+b*x+c*x^2)/(e^4*(c*d^2-b*d*e+a*e^2)*(d+e*x))
--E 275
```

```
--S 276 of 465
d0:=normalize(t0-D(r0,x))
--E 276
```

```
)clear all
```

```
--S 277 of 465
t0:=(b+2*c*x)*(d+e*x)^3*(a+b*x+c*x^2)^(5/2)
--E 277
```

```
--S 278 of 465
r0:=-1/8192*(b^2-4*a*c)^2*e*(40*c^2*d^2+11*b^2*e^2-4*c*e*(10*b*d+a*e))*_
(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/c^5+1/2560*(b^2-4*a*c)*e*(40*c^2*d^2+_
11*b^2*e^2-4*c*e*(10*b*d+a*e))*(b+2*c*x)*(a+b*x+c*x^2)^(5/2)/c^4+_
1/6720*(2*c*d-b*e)*(64*c^2*d^2+99*b^2*e^2-4*c*e*(16*b*d+83*a*e))*_
(a+b*x+c*x^2)^(7/2)/c^3+1/30*(2*c*d-b*e)*(d+e*x)^2*(a+b*x+_
c*x^2)^(7/2)/c+1/5*(d+e*x)^3*(a+b*x+c*x^2)^(7/2)+1/480*e*(7*b^2*d*e-_
44*a*c*d*e+4*b*(c*d^2+a*e^2)+(8*c^2*d^2+11*b^2*e^2-4*c*e*(2*b*d+_
9*a*e))*x)*(a+b*x+c*x^2)^(7/2)/c^2-3/131072*(b^2-4*a*c)^4*e*_
(sqrt(c)*sqrt(a+b*x+c*x^2))/c^(13/2)+3/65536*(b^2-4*a*c)^3*e*_
(40*c^2*d^2+11*b^2*e^2-4*c*e*(10*b*d+a*e))*(b+2*c*x)*sqrt(a+b*x+c*x^2)/c^6
--E 278
```

```
--S 279 of 465
d0:=normalize(t0-D(r0,x))
--E 279
```

```
)clear all
```

```
--S 280 of 465
t0:=(b+2*c*x)*(d+e*x)^2*(a+b*x+c*x^2)^(5/2)
--E 280
```

```

--S 281 of 465
r0:=-5/3072*(b^2-4*a*c)^2*e*(2*c*d-b*e)*(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/c^4+_
1/192*(b^2-4*a*c)*e*(2*c*d-b*e)*(b+2*c*x)*(a+b*x+c*x^2)^(5/2)/c^3+_
1/504*(32*c^2*d^2+9*b^2*e^2-4*c*e*(8*b*d+a*e))*_
(a+b*x+c*x^2)^(7/2)/c^2+2/9*(d+e*x)^2*(a+b*x+c*x^2)^(7/2)+_
1/36*e*(b*d-2*a*e+(2*c*d-b*e)*x)*(a+b*x+c*x^2)^(7/2)/c-_
5/16384*(b^2-4*a*c)^4*e*(2*c*d-b*e)*atanh(1/2*(b+2*c*x)/(sqrt(c)*_
sqrt(a+b*x+c*x^2)))/c^(11/2)+5/8192*(b^2-4*a*c)^3*e*(2*c*d-b*e)*_
(b+2*c*x)*sqrt(a+b*x+c*x^2)/c^5
--E 281

--S 282 of 465
d0:=normalize(t0-D(r0,x))
--E 282

)clear all

--S 283 of 465
t0:=(b+2*c*x)*(d+e*x)*(a+b*x+c*x^2)^(5/2)
--E 283

--S 284 of 465
r0:=-5/3072*(b^2-4*a*c)^2*e*(b+2*c*x)*(a+b*x+c*x^2)^(3/2)/c^3+_
1/192*(b^2-4*a*c)*e*(b+2*c*x)*(a+b*x+c*x^2)^(5/2)/c^2+1/56*(2*c*d-b*e)*_
(a+b*x+c*x^2)^(7/2)/c+1/4*(d+e*x)*(a+b*x+c*x^2)^(7/2)-_
5/16384*(b^2-4*a*c)^4*e*atanh(1/2*(b+2*c*x)/(sqrt(c)*_
sqrt(a+b*x+c*x^2)))/c^(9/2)+5/8192*(b^2-4*a*c)^3*e*(b+2*c*x)*_
sqrt(a+b*x+c*x^2)/c^4
--E 284

--S 285 of 465
d0:=normalize(t0-D(r0,x))
--E 285

)clear all

--S 286 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(5/2)
--E 286

--S 287 of 465
r0:=2/7*(a+b*x+c*x^2)^(7/2)
--E 287

--S 288 of 465
d0:=normalize(t0-D(r0,x))
--E 288

)clear all

```

```
--S 289 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(5/2)/(d+e*x)
--E 289
```

```
--S 290 of 465
r0:=-1/96*(64*c^3*d^3-b^3*e^3+4*b*c*e^2*(14*b*d-13*a*e)-8*c^2*d*e*_
(15*b*d-8*a*e)-2*c*e*(24*c^2*d^2+b^2*e^2-4*c*e*(6*b*d-5*a*e))*x*_
(a+b*x+c*x^2)^(3/2)/(c*e^4)-1/30*(12*c*d-11*b*e-10*c*e*x)*_
(a+b*x+c*x^2)^(5/2)/e^2+1/512*(1024*c^6*d^6+b^6*e^6+4*b^4*c*e^5*_
(2*b*d-5*a*e)-512*c^5*d^4*e*(6*b*d-5*a*e)-320*c^3*e^3*(b*d-a*e)^2*_
(4*b*d-a*e)+640*c^4*d^2*e^2*(5*b^2*d^2-8*a*b*d*e+3*a^2*e^2)+_
40*b^2*c^2*e^4*(3*b^2*d^2-8*a*b*d*e+6*a^2*e^2))*atanh(1/2*(b+2*c*x)/_
(sqrt(c)*sqrt(a+b*x+c*x^2)))/(c^(5/2)*e^7)-(2*c*d-b*e)*(c*d^2-_
b*d*e+a*e^2)^(5/2)*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-_
b*d*e+a*e^2))*sqrt(a+b*x+c*x^2)))/e^7-1/256*(512*c^5*d^5+b^5*e^5-_
128*c^4*d^3*e*(11*b*d-8*a*e)+8*b^3*c*e^4*(b*d-2*a*e)+32*c^3*d*e^2*_
(40*b^2*d^2-55*a*b*d*e+16*a^2*e^2)-8*b*c^2*e^3*(49*b^2*d^2-_
92*a*b*d*e+42*a^2*e^2)-2*c*e*(16*c^2*d^2-b^2*e^2-4*c*e*(4*b*d-5*a*e))*_
(8*c^2*d^2+b^2*e^2-4*c*e*(2*b*d-a*e))*x)*sqrt(a+b*x+c*x^2)/(c^2*e^6)
--E 290
```

```
--S 291 of 465
d0:=normalize(t0-D(r0,x))
--E 291
```

```
)clear all
```

```
--S 292 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(5/2)/(d+e*x)^2
--E 292
```

```
--S 293 of 465
r0:=1/12*(48*c^2*d^2-66*b*c*d*e+19*b^2*e^2+8*a*c*e^2-18*c*e*(2*c*d-b*e)*x)*_
(a+b*x+c*x^2)^(3/2)/e^4+1/5*(12*c*d-5*b*e+2*c*e*x)*(a+b*x+c*x^2)^(5/2)/_
(e^2*(d+e*x))-1/64*(2*c*d-b*e)*(384*c^4*d^4-b^4*e^4-8*b^2*c*e^3*(4*b*d-_
5*a*e)-128*c^3*d^2*e*(6*b*d-5*a*e)+16*c^2*e^2*(26*b^2*d^2-40*a*b*d*e+_
15*a^2*e^2))*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/(c^(3/2)*_
e^7)+1/2*(c*d^2-b*d*e+a*e^2)^(3/2)*(24*c^2*d^2+5*b^2*e^2-4*c*e*_
(6*b*d-a*e))*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+_
a*e^2))*sqrt(a+b*x+c*x^2)))/e^7+1/32*(384*c^4*d^4+b^4*e^4-2*b^2*c*e^3*_
(65*b*d-62*a*e)-32*c^3*d^2*e*(27*b*d-14*a*e)+8*c^2*e^2*(76*b^2*d^2-_
67*a*b*d*e+8*a^2*e^2)-2*c*e*(2*c*d-b*e)*(48*c^2*d^2-48*b*c*d*e+_
b^2*e^2+44*a*c*e^2)*x)*sqrt(a+b*x+c*x^2)/(c*e^6)
--E 293
```

```
--S 294 of 465
d0:=normalize(t0-D(r0,x))
--E 294
```

```
)clear all
```

```

--S 295 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(5/2)/(d+e*x)^3
--E 295

--S 296 of 465
r0:=-5/4*(8*c^2*d^2+b^2*e^2-c*e*(7*b*d-2*a*e)+c*e*(2*c*d-b*e)*x*_
(a+b*x+c*x^2)^(3/2)/(e^4*(d+e*x))+1/2*(3*c*d-b*e+c*e*x)*_
(a+b*x+c*x^2)^(5/2)/(e^2*(d+e*x)^2)+15/64*(128*c^4*d^4+b^4*e^4-_
8*b^2*c*e^3*(4*b*d-3*a*e)-128*c^3*d^2*e*(2*b*d-a*e)+16*c^2*e^2*_
(10*b^2*d^2-8*a*b*d*e+a^2*e^2))*atanh(1/2*(b+2*c*x)/(sqrt(c)*_
sqrt(a+b*x+c*x^2)))/(e^7*sqrt(c))-15/8*(2*c*d-b*e)*(8*c^2*d^2+b^2*e^2-_
4*c*e*(2*b*d-a*e))*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-_
b*d*e+a*e^2))*sqrt(a+b*x+c*x^2))*sqrt(c*d^2-b*d*e+a*e^2)/e^7-_
15/32*(64*c^3*d^3-7*b^3*e^3+4*b*c*e^2*(14*b*d-5*a*e)-16*c^2*d*e*_
(7*b*d-2*a*e)-2*c*e*(16*c^2*d^2+3*b^2*e^2-4*c*e*(4*b*d-a*e))*x)*_
sqrt(a+b*x+c*x^2)/e^6
--E 296

--S 297 of 465
d0:=normalize(t0-D(r0,x))
--E 297

)clear all

--S 298 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^(5/2)/(d+e*x)^4
--E 298

--S 299 of 465
r0:=-5/12*(16*c^2*d^2+b^2*e^2-4*c*e*(3*b*d-a*e)+4*c*e*(2*c*d-b*e)*x)*_
(a+b*x+c*x^2)^(3/2)/(e^4*(d+e*x)^2)+1/3*(4*c*d-b*e+2*c*e*x)*_
(a+b*x+c*x^2)^(5/2)/(e^2*(d+e*x)^3)-5/2*(2*c*d-b*e)*(8*c^2*d^2+b^2*e^2-_
4*c*e*(2*b*d-a*e))*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))*_
sqrt(c)/e^7+5/16*(128*c^4*d^4+b^4*e^4-8*b^2*c*e^3*(4*b*d-3*a*e)-_
128*c^3*d^2*e*(2*b*d-a*e)+16*c^2*e^2*(10*b^2*d^2-8*a*b*d*e+a^2*e^2))*_
atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2))*_
sqrt(a+b*x+c*x^2))/(e^7*sqrt(c*d^2-b*d*e+a*e^2))+5/8*(64*c^3*d^3-_
b^3*e^3-16*c^2*d*e*(5*b*d-2*a*e)+12*b*c*e^2*(2*b*d-a*e)+2*c*e*_
(16*c^2*d^2+3*b^2*e^2-4*c*e*(4*b*d-a*e))*x)*sqrt(a+b*x+c*x^2)/(e^6*(d+e*x))
--E 299

--S 300 of 465
d0:=normalize(t0-D(r0,x))
--E 300

)clear all

--S 301 of 465
t0:=(b+2*c*x)*(d+e*x)^3/sqrt(a+b*x+c*x^2)

```

```

--E 301

--S 302 of 465
r0:=3/64*(b^2-4*a*c)*e*(16*c^2*d^2+5*b^2*e^2-4*c*e*(4*b*d+a*e))*_
atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(7/2)+_
1/32*(2*c*d-b*e)*(16*c^2*d^2+15*b^2*e^2-4*c*e*(4*b*d+11*a*e))*_
sqrt(a+b*x+c*x^2)/c^3+1/4*(2*c*d-b*e)*(d+e*x)^2*sqrt(a+b*x+c*x^2)/c+_
1/2*(d+e*x)^3*sqrt(a+b*x+c*x^2)+1/16*e*(b^2*d*e-20*a*c*d*e+4*b*_
(c*d^2+a*e^2)+(8*c^2*d^2+5*b^2*e^2-4*c*e*(2*b*d+3*a*e))*x)*_
sqrt(a+b*x+c*x^2)/c^2
--E 302

--S 303 of 465
d0:=normalize(t0-D(r0,x))
--E 303

)clear all

--S 304 of 465
t0:=(b+2*c*x)*(d+e*x)^2/sqrt(a+b*x+c*x^2)
--E 304

--S 305 of 465
r0:=1/4*(b^2-4*a*c)*e*(2*c*d-b*e)*atanh(1/2*(b+2*c*x)/(sqrt(c)*_
sqrt(a+b*x+c*x^2)))/c^(5/2)+1/6*(8*c^2*d^2+3*b^2*e^2-4*c*e*(2*b*d+_
a*e))*sqrt(a+b*x+c*x^2)/c^2+2/3*(d+e*x)^2*sqrt(a+b*x+c*x^2)+1/3*e*_
(b*d-2*a*e+(2*c*d-b*e)*x)*sqrt(a+b*x+c*x^2)/c
--E 305

--S 306 of 465
d0:=normalize(t0-D(r0,x))
--E 306

)clear all

--S 307 of 465
t0:=(b+2*c*x)*(d+e*x)/sqrt(a+b*x+c*x^2)
--E 307

--S 308 of 465
r0:=1/4*(b^2-4*a*c)*e*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/_
c^(3/2)+1/2*(2*c*d-b*e)*sqrt(a+b*x+c*x^2)/c+(d+e*x)*sqrt(a+b*x+c*x^2)
--E 308

--S 309 of 465
d0:=normalize(t0-D(r0,x))
--E 309

)clear all

```

```

--S 310 of 465
t0:=(b+2*c*x)/sqrt(a+b*x+c*x^2)
--E 310

--S 311 of 465
r0:=2*sqrt(a+b*x+c*x^2)
--E 311

--S 312 of 465
d0:=normalize(t0-D(r0,x))
--E 312

)clear all

--S 313 of 465
t0:=(b+2*c*x)/((d+e*x)*sqrt(a+b*x+c*x^2))
--E 313

--S 314 of 465
r0:=2*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))*sqrt(c)/e-
(2*c*d-b*e)*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2)*_
sqrt(a+b*x+c*x^2)))/(e*sqrt(c*d^2-b*d*e+a*e^2))
--E 314

--S 315 of 465
d0:=normalize(t0-D(r0,x))
--E 315

)clear all

--S 316 of 465
t0:=(b+2*c*x)/((d+e*x)^2*sqrt(a+b*x+c*x^2))
--E 316

--S 317 of 465
r0:=-1/2*(b^2-4*a*c)*e*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-_
b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/(c*d^2-b*d*e+a*e^2)^(3/2)+(2*c*d-b*e)*_
sqrt(a+b*x+c*x^2)/((c*d^2-b*d*e+a*e^2)*(d+e*x))
--E 317

--S 318 of 465
d0:=normalize(t0-D(r0,x))
--E 318

)clear all

--S 319 of 465
t0:=(b+2*c*x)/((d+e*x)^3*sqrt(a+b*x+c*x^2))
--E 319

```

```

--S 320 of 465
r0:=-3/8*(b^2-4*a*c)*e*(2*c*d-b*e)*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/_
(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/(c*d^2-b*d*e+a*e^2)^(5/2)+_
1/2*(2*c*d-b*e)*sqrt(a+b*x+c*x^2)/((c*d^2-b*d*e+a*e^2)*(d+e*x)^2)+_
1/4*(4*c^2*d^2+3*b^2*e^2-4*c*e*(b*d+2*a*e))*sqrt(a+b*x+c*x^2)/_
((c*d^2-b*d*e+a*e^2)^2*(d+e*x))
--E 320

--S 321 of 465
d0:=normalize(t0-D(r0,x))
--E 321

)clear all

--S 322 of 465
t0:=(b+2*c*x)/((d+e*x)^4*sqrt(a+b*x+c*x^2))
--E 322

--S 323 of 465
r0:=-1/16*(b^2-4*a*c)*e*(16*c^2*d^2+5*b^2*e^2-4*c*e*(4*b*d+a*e))*_
atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2)*_
sqrt(a+b*x+c*x^2)))/(c*d^2-b*d*e+a*e^2)^(7/2)+1/3*(2*c*d-b*e)*_
sqrt(a+b*x+c*x^2)/((c*d^2-b*d*e+a*e^2)*(d+e*x)^3)+1/12*(8*c^2*d^2+_
5*b^2*e^2-4*c*e*(2*b*d+3*a*e))*sqrt(a+b*x+c*x^2)/((c*d^2-b*d*e+_
a*e^2)^2*(d+e*x)^2)+1/24*(2*c*d-b*e)*(8*c^2*d^2+15*b^2*e^2-4*c*e*_
(2*b*d+13*a*e))*sqrt(a+b*x+c*x^2)/((c*d^2-b*d*e+a*e^2)^3*(d+e*x))
--E 323

--S 324 of 465
d0:=normalize(t0-D(r0,x))
--E 324

)clear all

--S 325 of 465
t0:=(b+2*c*x)*(d+e*x)^4/(a+b*x+c*x^2)^(3/2)
--E 325

--S 326 of 465
r0:=1/2*e*(2*c*d-b*e)*(8*c^2*d^2+5*b^2*e^2-4*c*e*(2*b*d+3*a*e))*_
atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(7/2)-2*(d+e*x)^4/_
sqrt(a+b*x+c*x^2)+1/3*e^2*(52*c^2*d^2+15*b^2*e^2-4*c*e*(13*b*d+2*a*e))*_
sqrt(a+b*x+c*x^2)/c^3+8/3*e^2*(d+e*x)^2*sqrt(a+b*x+c*x^2)/c+2/3*e^2*_
(6*c*d^2-e*(b*d+4*a*e)+5*e*(2*c*d-b*e)*x)*sqrt(a+b*x+c*x^2)/c^2
--E 326

--S 327 of 465
d0:=normalize(t0-D(r0,x))
--E 327

```

```

)clear all

--S 328 of 465
t0:=(b+2*c*x)*(d+e*x)^3/(a+b*x+c*x^2)^(3/2)
--E 328

--S 329 of 465
r0:=3/4*e*(8*c^2*d^2+3*b^2*e^2-4*c*e*(2*b*d+a*e))*atanh(1/2*(b+2*c*x)/_
(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(5/2)-2*(d+e*x)^3/sqrt(a+b*x+c*x^2)+_
9/2*e^2*(2*c*d-b*e)*sqrt(a+b*x+c*x^2)/c^2+3*e^2*(d+e*x)*sqrt(a+b*x+c*x^2)/c
--E 329

--S 330 of 465
d0:=normalize(t0-D(r0,x))
--E 330

)clear all

--S 331 of 465
t0:=(b+2*c*x)*(d+e*x)^2/(a+b*x+c*x^2)^(3/2)
--E 331

--S 332 of 465
r0:=2*e*(2*c*d-b*e)*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(3/2)-_
2*(d+e*x)^2/sqrt(a+b*x+c*x^2)+4*e^2*sqrt(a+b*x+c*x^2)/c
--E 332

--S 333 of 465
d0:=normalize(t0-D(r0,x))
--E 333

)clear all

--S 334 of 465
t0:=(b+2*c*x)*(d+e*x)/(a+b*x+c*x^2)^(3/2)
--E 334

--S 335 of 465
r0:=2*e*atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/sqrt(c)-_
2*(d+e*x)/sqrt(a+b*x+c*x^2)
--E 335

--S 336 of 465
d0:=normalize(t0-D(r0,x))
--E 336

)clear all

--S 337 of 465
t0:=(b+2*c*x)/(a+b*x+c*x^2)^(3/2)

```

```

--E 337

--S 338 of 465
r0:=(-2)/sqrt(a+b*x+c*x^2)
--E 338

--S 339 of 465
d0:=normalize(t0-D(r0,x))
--E 339

)clear all

--S 340 of 465
t0:=(b+2*c*x)/((d+e*x)*(a+b*x+c*x^2)^(3/2))
--E 340

--S 341 of 465
r0:=-e*(2*c*d-b*e)*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/_
(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/(c*d^2-b*d*e+a*e^2)^(3/2)-_
2*((b^2-4*a*c)*(c*d-b*e)-c*(b^2-4*a*c)*e*x)/((b^2-4*a*c)*_
(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2))
--E 341

--S 342 of 465
d0:=normalize(t0-D(r0,x))
--E 342

)clear all

--S 343 of 465
t0:=(b+2*c*x)/((d+e*x)^2*(a+b*x+c*x^2)^(3/2))
--E 343

--S 344 of 465
r0:=-1/2*e*(8*c^2*d^2+3*b^2*e^2-4*c*e*(2*b*d+a*e))*atanh(1/2*(b*d-2*a*e+_
(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/_
(c*d^2-b*d*e+a*e^2)^(5/2)-2*((b^2-4*a*c)*(c*d-b*e)-c*(b^2-4*a*c)*e*x)/_
((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)*(d+e*x)*sqrt(a+b*x+c*x^2))+3*e^2*_
(2*c*d-b*e)*sqrt(a+b*x+c*x^2)/((c*d^2-b*d*e+a*e^2)^2*(d+e*x))
--E 344

--S 345 of 465
d0:=normalize(t0-D(r0,x))
--E 345

)clear all

--S 346 of 465
t0:=(b+2*c*x)*(d+e*x)^4/(a+b*x+c*x^2)^(5/2)
--E 346

```

```

--S 347 of 465
r0:=-2/3*(d+e*x)^4/(a+b*x+c*x^2)^(3/2)+4*e^3*(2*c*d-b*e)*_
atanh(1/2*(b+2*c*x)/(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(5/2)-_
16/3*e*(d+e*x)^2*(b*d-2*a*e+(2*c*d-b*e)*x)/((b^2-4*a*c)*_
sqrt(a+b*x+c*x^2))+8/3*e^2*(8*c^2*d^2+3*b^2*e^2-4*c*e*(2*b*d+a*e))*_
sqrt(a+b*x+c*x^2)/(c^2*(b^2-4*a*c))+16/3*e^3*(b*d-2*a*e+(2*c*d-b*e)*x)*_
sqrt(a+b*x+c*x^2)/(c*(b^2-4*a*c))
--E 347

--S 348 of 465
d0:=normalize(t0-D(r0,x))
--E 348

)clear all

--S 349 of 465
t0:=(b+2*c*x)*(d+e*x)^3/(a+b*x+c*x^2)^(5/2)
--E 349

--S 350 of 465
r0:=-2/3*(d+e*x)^3/(a+b*x+c*x^2)^(3/2)+2*e^3*atanh(1/2*(b+2*c*x)/_
(sqrt(c)*sqrt(a+b*x+c*x^2)))/c^(3/2)-4*e*(d+e*x)*(b*d-2*a*e+(2*c*d-_
b*e)*x)/((b^2-4*a*c)*sqrt(a+b*x+c*x^2))+4*e^2*(2*c*d-b*e)*sqrt(a+b*x+_
c*x^2)/(c*(b^2-4*a*c))
--E 350

--S 351 of 465
d0:=normalize(t0-D(r0,x))
--E 351

)clear all

--S 352 of 465
t0:=(b+2*c*x)*(d+e*x)^2/(a+b*x+c*x^2)^(5/2)
--E 352

--S 353 of 465
r0:=-2/3*(d+e*x)^2/(a+b*x+c*x^2)^(3/2)-8/3*e*(b*d-2*a*e+(2*c*d-b*e)*x)/_
((b^2-4*a*c)*sqrt(a+b*x+c*x^2))
--E 353

--S 354 of 465
d0:=normalize(t0-D(r0,x))
--E 354

)clear all

--S 355 of 465
t0:=(b+2*c*x)*(d+e*x)/(a+b*x+c*x^2)^(5/2)

```

```

--E 355

--S 356 of 465
r0:=-2/3*(d+e*x)/(a+b*x+c*x^2)^(3/2)-4/3*e*(b+2*c*x)/((b^2-4*a*c)*_
sqrt(a+b*x+c*x^2))
--E 356

--S 357 of 465
d0:=normalize(t0-D(r0,x))
--E 357

)clear all

--S 358 of 465
t0:=(b+2*c*x)/(a+b*x+c*x^2)^(5/2)
--E 358

--S 359 of 465
r0:=(-2/3)/(a+b*x+c*x^2)^(3/2)
--E 359

--S 360 of 465
d0:=normalize(t0-D(r0,x))
--E 360

)clear all

--S 361 of 465
t0:=(b+2*c*x)/((d+e*x)*(a+b*x+c*x^2)^(5/2))
--E 361

--S 362 of 465
r0:=-2/3*((b^2-4*a*c)*(c*d-b*e)-c*(b^2-4*a*c)*e*x)/((b^2-4*a*c)*_
(c*d^2-b*d*e+a*e^2)*(a+b*x+c*x^2)^(3/2))-e^3*(2*c*d-b*e)*_
atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/(sqrt(c*d^2-b*d*e+a*e^2))*_
sqrt(a+b*x+c*x^2))/((c*d^2-b*d*e+a*e^2)^(5/2))-2/3*e*(5*b^2*c*d*e-_
12*a*c^2*d*e-3*b^3*e^2-2*b*c*(c*d^2-5*a*e^2)-c*(4*c^2*d^2+3*b^2*e^2-_
4*c*e*(b*d+2*a*e))*x)/((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)^2*sqrt(a+b*x+c*x^2))
--E 362

--S 363 of 465
d0:=normalize(t0-D(r0,x))
--E 363

)clear all

--S 364 of 465
t0:=(b+2*c*x)/((d+e*x)^2*(a+b*x+c*x^2)^(5/2))
--E 364

```

```

--S 365 of 465
r0:=-2/3*((b^2-4*a*c)*(c*d-b*e)-c*(b^2-4*a*c)*e*x)/((b^2-4*a*c)*_
(c*d^2-b*d*e+a*e^2)*(d+e*x)*(a+b*x+c*x^2)^(3/2))-1/2*e^3*(16*c^2*d^2+_
5*b^2*e^2-4*c*e*(4*b*d+a*e))*atanh(1/2*(b*d-2*a*e+(2*c*d-b*e)*x)/_
(sqrt(c*d^2-b*d*e+a*e^2)*sqrt(a+b*x+c*x^2)))/(c*d^2-b*d*e+a*e^2)^(7/2)-_
2/3*e*(9*b^2*c*d*e-20*a*c^2*d*e-5*b^3*e^2-4*b*c*(c*d^2-4*a*e^2)-_
c*(8*c^2*d^2+5*b^2*e^2-4*c*e*(2*b*d+3*a*e))*x)/((b^2-4*a*c)*(c*d^2-_
b*d*e+a*e^2)^2*(d+e*x)*sqrt(a+b*x+c*x^2))+1/3*e^2*(2*c*d-b*e)*_
(8*c^2*d^2+15*b^2*e^2-4*c*e*(2*b*d+13*a*e))*sqrt(a+b*x+c*x^2)/_
((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)^3*(d+e*x))
--E 365

--S 366 of 465
d0:=normalize(t0-D(r0,x))
--E 366

)clear all

--S 367 of 465
t0:=(b+2*c*x)*(d+e*x)^(5/2)*(a+b*x+c*x^2)
--E 367

--S 368 of 465
r0:=-2/7*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(d+e*x)^(7/2)/e^4+2/9*_
(6*c^2*d^2+b^2*e^2-2*c*e*(3*b*d-a*e))*(d+e*x)^(9/2)/e^4-6/11*c*_
(2*c*d-b*e)*(d+e*x)^(11/2)/e^4+4/13*c^2*(d+e*x)^(13/2)/e^4
--E 368

--S 369 of 465
d0:=normalize(t0-D(r0,x))
--E 369

)clear all

--S 370 of 465
t0:=(b+2*c*x)*(d+e*x)^(3/2)*(a+b*x+c*x^2)
--E 370

--S 371 of 465
r0:=-2/5*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(d+e*x)^(5/2)/e^4+_
2/7*(6*c^2*d^2+b^2*e^2-2*c*e*(3*b*d-a*e))*(d+e*x)^(7/2)/e^4-_
2/3*c*(2*c*d-b*e)*(d+e*x)^(9/2)/e^4+4/11*c^2*(d+e*x)^(11/2)/e^4
--E 371

--S 372 of 465
d0:=normalize(t0-D(r0,x))
--E 372

)clear all

```

```

--S 373 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)*sqrt(d+e*x)
--E 373

--S 374 of 465
r0:=-2/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(d+e*x)^(3/2)/e^4+_
2/5*(6*c^2*d^2+b^2*e^2-2*c*e*(3*b*d-a*e))*(d+e*x)^(5/2)/e^4-_
6/7*c*(2*c*d-b*e)*(d+e*x)^(7/2)/e^4+4/9*c^2*(d+e*x)^(9/2)/e^4
--E 374

--S 375 of 465
d0:=normalize(t0-D(r0,x))
--E 375

)clear all

--S 376 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)/sqrt(d+e*x)
--E 376

--S 377 of 465
r0:=2/3*(6*c^2*d^2+b^2*e^2-2*c*e*(3*b*d-a*e))*(d+e*x)^(3/2)/e^4-_
6/5*c*(2*c*d-b*e)*(d+e*x)^(5/2)/e^4+4/7*c^2*(d+e*x)^(7/2)/e^4-_
2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*sqrt(d+e*x)/e^4
--E 377

--S 378 of 465
d0:=normalize(t0-D(r0,x))
--E 378

)clear all

--S 379 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)/(d+e*x)^(3/2)
--E 379

--S 380 of 465
r0:=-2*c*(2*c*d-b*e)*(d+e*x)^(3/2)/e^4+4/5*c^2*(d+e*x)^(5/2)/e^4+_
2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)/(e^4*sqrt(d+e*x))+2*(6*c^2*d^2+_
b^2*e^2-2*c*e*(3*b*d-a*e))*sqrt(d+e*x)/e^4
--E 380

--S 381 of 465
d0:=normalize(t0-D(r0,x))
--E 381

)clear all

--S 382 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)/(d+e*x)^(5/2)

```

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--E 382

--S 383 of 465
r0:=2/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)/(e^4*(d+e*x)^(3/2))+_
4/3*c^2*(d+e*x)^(3/2)/e^4-2*(6*c^2*d^2+b^2*e^2-2*c*e*_
(3*b*d-a*e))/(e^4*sqrt(d+e*x))-6*c*(2*c*d-b*e)*sqrt(d+e*x)/e^4
--E 383

--S 384 of 465
d0:=normalize(t0-D(r0,x))
--E 384

)clear all

--S 385 of 465
t0:=(b+2*c*x)*(d+e*x)^(5/2)*(a+b*x+c*x^2)^2
--E 385

--S 386 of 465
r0:=-2/7*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2*(d+e*x)^(7/2)/e^6+_
4/9*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*_
(d+e*x)^(9/2)/e^6-2/11*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*_
(5*b*d-3*a*e))*(d+e*x)^(11/2)/e^6+8/13*c*(5*c^2*d^2+b^2*e^2-_
c*e*(5*b*d-a*e))*(d+e*x)^(13/2)/e^6-2/3*c^2*(2*c*d-b*e)*_
(d+e*x)^(15/2)/e^6+4/17*c^3*(d+e*x)^(17/2)/e^6
--E 386

--S 387 of 465
d0:=normalize(t0-D(r0,x))
--E 387

)clear all

--S 388 of 465
t0:=(b+2*c*x)*(d+e*x)^(3/2)*(a+b*x+c*x^2)^2
--E 388

--S 389 of 465
r0:=-2/5*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2*(d+e*x)^(5/2)/e^6+_
4/7*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*_
(d+e*x)^(7/2)/e^6-2/9*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*_
(5*b*d-3*a*e))*(d+e*x)^(9/2)/e^6+8/11*c*(5*c^2*d^2+b^2*e^2-_
c*e*(5*b*d-a*e))*(d+e*x)^(11/2)/e^6-10/13*c^2*(2*c*d-b*e)*_
(d+e*x)^(13/2)/e^6+4/15*c^3*(d+e*x)^(15/2)/e^6
--E 389

--S 390 of 465
d0:=normalize(t0-D(r0,x))
--E 390

```

```

)clear all

--S 391 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2*sqrt(d+e*x)
--E 391

--S 392 of 465
r0:=-2/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2*(d+e*x)^(3/2)/e^6+_
4/5*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*_
(d+e*x)^(5/2)/e^6-2/7*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-_
2*c*e*(5*b*d-3*a*e))*(d+e*x)^(7/2)/e^6+8/9*c*(5*c^2*d^2+b^2*e^2-_
c*e*(5*b*d-a*e))*(d+e*x)^(9/2)/e^6-10/11*c^2*(2*c*d-b*e)*_
(d+e*x)^(11/2)/e^6+4/13*c^3*(d+e*x)^(13/2)/e^6
--E 392

--S 393 of 465
d0:=normalize(t0-D(r0,x))
--E 393

)clear all

--S 394 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2/sqrt(d+e*x)
--E 394

--S 395 of 465
r0:=4/3*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*_
(d+e*x)^(3/2)/e^6-2/5*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*_
(5*b*d-3*a*e))*(d+e*x)^(5/2)/e^6+8/7*c*(5*c^2*d^2+b^2*e^2-_
c*e*(5*b*d-a*e))*(d+e*x)^(7/2)/e^6-10/9*c^2*(2*c*d-b*e)*_
(d+e*x)^(9/2)/e^6+4/11*c^3*(d+e*x)^(11/2)/e^6-2*(2*c*d-b*e)*_
(c*d^2-b*d*e+a*e^2)^2*sqrt(d+e*x)/e^6
--E 395

--S 396 of 465
d0:=normalize(t0-D(r0,x))
--E 396

)clear all

--S 397 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2/(d+e*x)^(3/2)
--E 397

--S 398 of 465
r0:=-2/3*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*(5*b*d-3*a*e))*_
(d+e*x)^(3/2)/e^6+8/5*c*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*_
(d+e*x)^(5/2)/e^6-10/7*c^2*(2*c*d-b*e)*(d+e*x)^(7/2)/e^6+4/9*c^3*_
(d+e*x)^(9/2)/e^6+2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2/(e^6*_
sqrt(d+e*x))+4*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*_

```

```

sqrt(d+e*x)/e^6
--E 398

--S 399 of 465
d0:=normalize(t0-D(r0,x))
--E 399

)clear all

--S 400 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^2/(d+e*x)^(5/2)
--E 400

--S 401 of 465
r0:=2/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^2/(e^6*(d+e*x)^(3/2))+
8/3*c*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))*(d+e*x)^(3/2)/e^6-
2*c^2*(2*c*d-b*e)*(d+e*x)^(5/2)/e^6+4/7*c^3*(d+e*x)^(7/2)/e^6-
4*(c*d^2-b*d*e+a*e^2)*(5*c^2*d^2+b^2*e^2-c*e*(5*b*d-a*e))/(e^6*_
sqrt(d+e*x))-2*(2*c*d-b*e)*(10*c^2*d^2+b^2*e^2-2*c*e*(5*b*d-3*a*e))*_
sqrt(d+e*x)/e^6
--E 401

--S 402 of 465
d0:=normalize(t0-D(r0,x))
--E 402

)clear all

--S 403 of 465
t0:=(b+2*c*x)*(d+e*x)^(5/2)*(a+b*x+c*x^2)^3
--E 403

--S 404 of 465
r0:=-2/7*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3*(d+e*x)^(7/2)/e^8+_
2/9*(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*_
(d+e*x)^(9/2)/e^8-6/11*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+_
b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(11/2)/e^8+2/13*(70*c^4*d^4+_
b^4*e^4-4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*(7*b*d-3*a*e)+_
6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*(d+e*x)^(13/2)/e^8-
2/3*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*_
(d+e*x)^(15/2)/e^8+6/17*c^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*_
(d+e*x)^(17/2)/e^8-14/19*c^3*(2*c*d-b*e)*(d+e*x)^(19/2)/e^8+_
4/21*c^4*(d+e*x)^(21/2)/e^8
--E 404

--S 405 of 465
d0:=normalize(t0-D(r0,x))
--E 405

)clear all

```

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--S 406 of 465
t0:=(b+2*c*x)*(d+e*x)^(3/2)*(a+b*x+c*x^2)^3
--E 406

--S 407 of 465
r0:=-2/5*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3*(d+e*x)^(5/2)/e^8+_
2/7*(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*_
(d+e*x)^(7/2)/e^8-2/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+_
b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(9/2)/e^8+2/11*(70*c^4*d^4+_
b^4*e^4-4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*(7*b*d-3*a*e)+_
6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*(d+e*x)^(11/2)/e^8-_
10/13*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*_
(d+e*x)^(13/2)/e^8+2/5*c^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*_
(d+e*x)^(15/2)/e^8-14/17*c^3*(2*c*d-b*e)*(d+e*x)^(17/2)/e^8+_
4/19*c^4*(d+e*x)^(19/2)/e^8
--E 407

--S 408 of 465
d0:=normalize(t0-D(r0,x))
--E 408

)clear all

--S 409 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3*sqrt(d+e*x)
--E 409

--S 410 of 465
r0:=-2/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3*(d+e*x)^(3/2)/e^8+_
2/5*(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*_
(d+e*x)^(5/2)/e^8-6/7*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+_
b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(7/2)/e^8+2/9*(70*c^4*d^4+b^4*e^4-_
4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*(7*b*d-3*a*e)+6*c^2*e^2*_
(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*(d+e*x)^(9/2)/e^8-10/11*c*_
(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(11/2)/e^8+_
6/13*c^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*(d+e*x)^(13/2)/e^8-_
14/15*c^3*(2*c*d-b*e)*(d+e*x)^(15/2)/e^8+4/17*c^4*(d+e*x)^(17/2)/e^8
--E 410

--S 411 of 465
d0:=normalize(t0-D(r0,x))
--E 411

)clear all

--S 412 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3/sqrt(d+e*x)
--E 412

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--S 413 of 465
r0:=2/3*(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*_
(d+e*x)^(3/2)/e^8-6/5*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+_
b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(5/2)/e^8+2/7*(70*c^4*d^4+b^4*e^4-_
4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*(7*b*d-3*a*e)+6*c^2*e^2*_
(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*(d+e*x)^(7/2)/e^8-10/9*c*(2*c*d-b*e)*_
(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(9/2)/e^8+6/11*c^2*_
(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*(d+e*x)^(11/2)/e^8-14/13*c^3*_
(2*c*d-b*e)*(d+e*x)^(13/2)/e^8+4/15*c^4*(d+e*x)^(15/2)/e^8-_
2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3*sqrt(d+e*x)/e^8
--E 413

--S 414 of 465
d0:=normalize(t0-D(r0,x))
--E 414

)clear all

--S 415 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3/(d+e*x)^(3/2)
--E 415

--S 416 of 465
r0:=-2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+b^2*e^2-_
c*e*(7*b*d-3*a*e))*(d+e*x)^(3/2)/e^8+2/5*(70*c^4*d^4+b^4*e^4-_
4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*(7*b*d-3*a*e)+6*c^2*e^2*_
(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*(d+e*x)^(5/2)/e^8-10/7*c*(2*c*d-b*e)*_
(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(7/2)/e^8+2/3*c^2*_
(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*(d+e*x)^(9/2)/e^8-14/11*c^3*_
(2*c*d-b*e)*(d+e*x)^(11/2)/e^8+4/13*c^4*(d+e*x)^(13/2)/e^8+_
2*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3/(e^8*sqrt(d+e*x))+2*(c*d^2-_
b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*sqrt(d+e*x)/e^8
--E 416

--S 417 of 465
d0:=normalize(t0-D(r0,x))
--E 417

)clear all

--S 418 of 465
t0:=(b+2*c*x)*(a+b*x+c*x^2)^3/(d+e*x)^(5/2)
--E 418

--S 419 of 465
r0:=2/3*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)^3/(e^8*(d+e*x)^(3/2))+2/3*_
(70*c^4*d^4+b^4*e^4-4*b^2*c*e^3*(5*b*d-3*a*e)-20*c^3*d^2*e*(7*b*d-_
3*a*e)+6*c^2*e^2*(15*b^2*d^2-10*a*b*d*e+a^2*e^2))*(d+e*x)^(3/2)/e^8-_
2*c*(2*c*d-b*e)*(7*c^2*d^2+b^2*e^2-c*e*(7*b*d-3*a*e))*(d+e*x)^(5/2)/_
e^8+6/7*c^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))*(d+e*x)^(7/2)/_

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e^8-14/9*c^3*(2*c*d-b*e)*(d+e*x)^(9/2)/e^8+4/11*c^4*(d+e*x)^(11/2)/_
e^8-2*(c*d^2-b*d*e+a*e^2)^2*(14*c^2*d^2+3*b^2*e^2-2*c*e*(7*b*d-a*e))/_
(e^8*sqrt(d+e*x))-6*(2*c*d-b*e)*(c*d^2-b*d*e+a*e^2)*(7*c^2*d^2+_
b^2*e^2-c*e*(7*b*d-3*a*e))*sqrt(d+e*x)/e^8
--E 419

--S 420 of 465
d0:=normalize(t0-D(r0,x))
--E 420

)clear all

--S 421 of 465
t0:=(b+2*c*x)*(d+e*x)^(3/2)/(a+b*x+c*x^2)
--E 421

--S 422 of 465
r0:=4/3*(d+e*x)^(3/2)+2*(2*c*d-b*e)*sqrt(d+e*x)/c-atanh(sqrt(2)*sqrt(c)*_
sqrt(d+e*x)/sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*sqrt(2)*(2*c^2*d^2+b^2*_
e^2-2*c*e*(b*d+a*e)+e*(2*c*d-b*e)*sqrt(b^2-4*a*c))/(c^(3/2)*sqrt(2*c*d-_
e*(b-sqrt(b^2-4*a*c))))-atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-_
e*(b+sqrt(b^2-4*a*c))))*sqrt(2)*(2*c^2*d^2+b^2*e^2-2*c*e*(b*d+a*e)-_
e*(2*c*d-b*e)*sqrt(b^2-4*a*c))/(c^(3/2)*sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))
--E 422

--S 423 of 465
d0:=normalize(t0-D(r0,x))
--E 423

)clear all

--S 424 of 465
t0:=(b+2*c*x)*sqrt(d+e*x)/(a+b*x+c*x^2)
--E 424

--S 425 of 465
r0:=4*sqrt(d+e*x)-atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b-_
sqrt(b^2-4*a*c))))*sqrt(2)*sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c)))/sqrt(c)-_
atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*_
sqrt(2)*sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c)))/sqrt(c)
--E 425

--S 426 of 465
d0:=normalize(t0-D(r0,x))
--E 426

)clear all

--S 427 of 465
t0:=(b+2*c*x)/((a+b*x+c*x^2)*sqrt(d+e*x))

```

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--E 427

--S 428 of 465
r0:=-2*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*_
sqrt(2)*sqrt(c)/sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c)))-2*atanh(sqrt(2)*_
sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*sqrt(2)*_
sqrt(c)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c)))
--E 428

--S 429 of 465
d0:=normalize(t0-D(r0,x))
--E 429

)clear all

--S 430 of 465
t0:=(b+2*c*x)/((d+e*x)^(3/2)*(a+b*x+c*x^2))
--E 430

--S 431 of 465
r0:=2*(2*c*d-b*e)/((c*d^2-b*d*e+a*e^2)*sqrt(d+e*x))+atanh(sqrt(2)*sqrt(c)*_
sqrt(d+e*x)/sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*sqrt(2)*sqrt(c)*(b*e*_
(b+sqrt(b^2-4*a*c))-2*c*(2*a*e+d*sqrt(b^2-4*a*c)))/((c*d^2-b*d*e+a*e^2)*_
sqrt(b^2-4*a*c)*sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))-atanh(sqrt(2)*_
sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*sqrt(2)*sqrt(c)*_
(b*e*(b-sqrt(b^2-4*a*c))+2*c*(-2*a*e+d*sqrt(b^2-4*a*c)))/((c*d^2-_
b*d*e+a*e^2)*sqrt(b^2-4*a*c)*sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))
--E 431

--S 432 of 465
d0:=normalize(t0-D(r0,x))
--E 432

)clear all

--S 433 of 465
t0:=(b+2*c*x)/((d+e*x)^(5/2)*(a+b*x+c*x^2))
--E 433

--S 434 of 465
r0:=2/3*(2*c*d-b*e)/((c*d^2-b*d*e+a*e^2)*(d+e*x)^(3/2))+_
2*(2*c^2*d^2+b^2*e^2-2*c*e*(b*d+a*e))/((c*d^2-b*d*e+a*e^2)^2*_
sqrt(d+e*x))-atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*_
(b-sqrt(b^2-4*a*c))))*sqrt(2)*sqrt(c)*(b^2*e^2*(b+sqrt(b^2-4*a*c))+_
2*c^2*d*(4*a*e+d*sqrt(b^2-4*a*c))-2*c*e*(b^2*d+2*a*b*e+b*d*_
sqrt(b^2-4*a*c)+a*e*sqrt(b^2-4*a*c)))/((c*d^2-b*d*e+a*e^2)^2*_
sqrt(b^2-4*a*c)*sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))+atanh(sqrt(2)*_
sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*sqrt(2)*_
sqrt(c)*(b^2*e^2*(b-sqrt(b^2-4*a*c))-2*c^2*d*(-4*a*e+d*_
sqrt(b^2-4*a*c)))-2*c*e*(b^2*d+2*a*b*e-b*d*sqrt(b^2-4*a*c))-_

```

```

a*sqrt(b^2-4*a*c))/((c*d^2-b*d*e+a*e^2)^2*sqrt(b^2-4*a*c)*_
sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))
--E 434

--S 435 of 465
d0:=normalize(t0-D(r0,x))
--E 435

)clear all

--S 436 of 465
t0:=(b+2*c*x)*(d+e*x)^(5/2)/(a+b*x+c*x^2)^2
--E 436

--S 437 of 465
r0:=- (d+e*x)^(5/2)/(a+b*x+c*x^2)+5*e^2*sqrt(d+e*x)/c-5*e*atanh(sqrt(2)*_
sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*(e*(2*c*d-b*e)+_
(2*c^2*d^2+b^2*e^2-2*c*e*(b*d+a*e))/sqrt(b^2-4*a*c))/(c^(3/2)*_
sqrt(2)*sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))-5*e*atanh(sqrt(2)*sqrt(c)*_
sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*(e*(2*c*d-b*e)+_
(-2*c^2*d^2-b^2*e^2+2*c*e*(b*d+a*e))/sqrt(b^2-4*a*c))/(c^(3/2)*_
sqrt(2)*sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))
--E 437

--S 438 of 465
d0:=normalize(t0-D(r0,x))
--E 438

)clear all

--S 439 of 465
t0:=(b+2*c*x)*(d+e*x)^(3/2)/(a+b*x+c*x^2)^2
--E 439

--S 440 of 465
r0:=- (d+e*x)^(3/2)/(a+b*x+c*x^2)-3*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/_
sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c)))/_
(sqrt(2)*sqrt(c)*sqrt(b^2-4*a*c))+3*e*atanh(sqrt(2)*sqrt(c)*_
sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*sqrt(2*c*d-e*(b+_
sqrt(b^2-4*a*c)))/(sqrt(2)*sqrt(c)*sqrt(b^2-4*a*c))
--E 440

--S 441 of 465
d0:=normalize(t0-D(r0,x))
--E 441

)clear all

--S 442 of 465
t0:=(b+2*c*x)*sqrt(d+e*x)/(a+b*x+c*x^2)^2

```

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--E 442

--S 443 of 465
r0:=-sqrt(d+e*x)/(a+b*x+c*x^2)-e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/_
sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*sqrt(2)*sqrt(c)/(sqrt(b^2-4*a*c)*_
sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))+e*atanh(sqrt(2)*sqrt(c)*_
sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*sqrt(2)*sqrt(c)/_
(sqrt(b^2-4*a*c)*sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))
--E 443

--S 444 of 465
d0:=normalize(t0-D(r0,x))
--E 444

)clear all

--S 445 of 465
t0:=(b+2*c*x)/((a+b*x+c*x^2)^2*sqrt(d+e*x))
--E 445

--S 446 of 465
r0:=-(b^2-4*a*c)*(c*d-b*e)-c*(b^2-4*a*c)*e*x)*sqrt(d+e*x)/((b^2-4*a*c)*_
(c*d^2-b*d*e+a*e^2)*(a+b*x+c*x^2))+e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/_
sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*sqrt(c)*(2*c*d-e*(b+_
sqrt(b^2-4*a*c)))/((c*d^2-e*(b*d-a*e))*sqrt(2)*sqrt(b^2-4*a*c)*_
sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))-e*atanh(sqrt(2)*sqrt(c)*_
sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*sqrt(c)*(2*c*d-_
e*(b-sqrt(b^2-4*a*c)))/((c*d^2-b*d*e+a*e^2)*sqrt(2)*sqrt(b^2-4*a*c)*_
sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))
--E 446

--S 447 of 465
d0:=normalize(t0-D(r0,x))
--E 447

)clear all

--S 448 of 465
t0:=(b+2*c*x)/((d+e*x)^(3/2)*(a+b*x+c*x^2)^2)
--E 448

--S 449 of 465
r0:=3*e^2*(2*c*d-b*e)/((c*d^2-b*d*e+a*e^2)^2*sqrt(d+e*x))+(-b^2-4*a*c)*_
(c*d-b*e)+c*(b^2-4*a*c)*e*x)/((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)*_
(a+b*x+c*x^2)*sqrt(d+e*x))+3*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/_
sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*sqrt(c)*(2*c^2*d^2+b*e^2*(b+_
sqrt(b^2-4*a*c))-2*c*e*(b*d+a*e+d*sqrt(b^2-4*a*c)))/((c*d^2-b*d*e+_
a*e^2)^2*sqrt(2)*sqrt(b^2-4*a*c)*sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))-_
3*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b+_
sqrt(b^2-4*a*c))))*sqrt(c)*(2*c^2*d^2+b*e^2*(b-sqrt(b^2-4*a*c))-_

```

```

2*c*e*(b*d+a*e-d*sqrt(b^2-4*a*c))/((c*d^2-b*d*e+a*e^2)^2*sqrt(2)*_
sqrt(b^2-4*a*c)*sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c)))
--E 449

--S 450 of 465
d0:=normalize(t0-D(r0,x))
--E 450

)clear all

--S 451 of 465
t0:=(b+2*c*x)*(d+e*x)^(7/2)/(a+b*x+c*x^2)^3
--E 451

--S 452 of 465
r0:=-1/2*(d+e*x)^(7/2)/(a+b*x+c*x^2)^2-7/4*e*(d+e*x)^(3/2)*(b*d-2*a*e+_
(2*c*d-b*e)*x)/((b^2-4*a*c)*(a+b*x+c*x^2))+7/4*e^2*(2*c*d-b*e)*_
sqrt(d+e*x)/(c*(b^2-4*a*c))+7/4*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/_
sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*(e*(2*c^2*d^2-b^2*e^2-2*c*e*_
(b*d-3*a*e))+(2*c*d-b*e)*(4*c^2*d^2-b^2*e^2-4*c*e*(b*d-2*a*e))/_
sqrt(b^2-4*a*c))/(c^(3/2)*(b^2-4*a*c)*sqrt(2)*sqrt(2*c*d-e*_
(b-sqrt(b^2-4*a*c))))+7/4*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/_
sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*(e*(2*c^2*d^2-b^2*e^2-2*c*e*_
(b*d-3*a*e))-(2*c*d-b*e)*(4*c^2*d^2-b^2*e^2-4*c*e*(b*d-2*a*e))/_
sqrt(b^2-4*a*c))/(c^(3/2)*(b^2-4*a*c)*sqrt(2)*sqrt(2*c*d-e*_
(b+sqrt(b^2-4*a*c))))
--E 452

--S 453 of 465
d0:=normalize(t0-D(r0,x))
--E 453

)clear all

--S 454 of 465
t0:=(b+2*c*x)*(d+e*x)^(5/2)/(a+b*x+c*x^2)^3
--E 454

--S 455 of 465
r0:=-1/2*(d+e*x)^(5/2)/(a+b*x+c*x^2)^2-5/4*e*(b*d-2*a*e+(2*c*d-b*e)*x)*_
sqrt(d+e*x)/((b^2-4*a*c)*(a+b*x+c*x^2))+5/4*e*atanh(sqrt(2)*sqrt(c)*_
sqrt(d+e*x)/sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*(e*(2*c*d-b*e)+_
(8*c^2*d^2+b^2*e^2-4*c*e*(2*b*d-a*e))/sqrt(b^2-4*a*c))/((b^2-4*a*c)*_
sqrt(2)*sqrt(c)*sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))-5/4*e*_
atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*_
(8*c^2*d^2+b^2*e^2*(b+sqrt(b^2-4*a*c))-2*c*e*(4*b*d-2*a*e+d*_
sqrt(b^2-4*a*c)))/(c^(3/2)*(b^2-4*a*c)*sqrt(2)*sqrt(c)*sqrt(2*c*d-e*_
(b+sqrt(b^2-4*a*c))))
--E 455

```

```

--S 456 of 465
d0:=normalize(t0-D(r0,x))
--E 456

)clear all

--S 457 of 465
t0:=(b+2*c*x)*(d+e*x)^(3/2)/(a+b*x+c*x^2)^3
--E 457

--S 458 of 465
r0:=-1/2*(d+e*x)^(3/2)/(a+b*x+c*x^2)^2-3/4*e*(b+2*c*x)*sqrt(d+e*x)/_
((b^2-4*a*c)*(a+b*x+c*x^2))+3/2*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/_
sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c))))*sqrt(c)*(4*c*d-e*(2*b+_
sqrt(b^2-4*a*c)))/(b^2-4*a*c)^(3/2)*sqrt(2)*sqrt(2*c*d-e*(b+_
sqrt(b^2-4*a*c)))-3/2*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-_
e*(b+sqrt(b^2-4*a*c))))*sqrt(c)*(4*c*d-e*(2*b+sqrt(b^2-4*a*c)))/_
((b^2-4*a*c)^(3/2)*sqrt(2)*sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))
--E 458

--S 459 of 465
d0:=normalize(t0-D(r0,x))
--E 459

)clear all

--S 460 of 465
t0:=(b+2*c*x)*sqrt(d+e*x)/(a+b*x+c*x^2)^3
--E 460

--S 461 of 465
r0:=-1/2*sqrt(d+e*x)/(a+b*x+c*x^2)^2-1/4*e*(b*c*d-b^2*e+2*a*c*e+_
c*(2*c*d-b*e)*x)*sqrt(d+e*x)/((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)*_
(a+b*x+c*x^2))+1/4*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*_
(b-sqrt(b^2-4*a*c))))*sqrt(c)*(8*c^2*d^2-b*e^2*(b+sqrt(b^2-4*a*c))-_
2*c*e*(4*b*d-6*a*e-d*sqrt(b^2-4*a*c)))/(b^2-4*a*c)^(3/2)*(c*d^2-_
e*(b*d-a*e))*sqrt(2)*sqrt(2*c*d-e*(b-sqrt(b^2-4*a*c)))-_
1/4*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-e*(b+_
sqrt(b^2-4*a*c))))*sqrt(c)*(8*c^2*d^2-b*e^2*(b-sqrt(b^2-4*a*c))-_
2*c*e*(4*b*d-6*a*e+d*sqrt(b^2-4*a*c)))/(b^2-4*a*c)^(3/2)*(c*d^2-_
b*d*e+a*e^2)*sqrt(2)*sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))
--E 461

--S 462 of 465
d0:=normalize(t0-D(r0,x))
--E 462

)clear all

--S 463 of 465

```

```
t0:=(b+2*c*x)/((a+b*x+c*x^2)^3*sqrt(d+e*x))
--E 463
```

```
--S 464 of 465
```

```
r0:=-1/2*((b^2-4*a*c)*(c*d-b*e)-c*(b^2-4*a*c)*e*x)*sqrt(d+e*x)/_
((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)*(a+b*x+c*x^2)^2)+1/4*e*(5*a*c*e*_
(2*c*d-b*e)+(c*d-3*b*e)*(b*c*d-b^2*e+2*a*c*e)+c*(2*c^2*d^2+3*b^2*e^2-_
2*c*e*(b*d+5*a*e))*x)*sqrt(d+e*x)/((b^2-4*a*c)*(c*d^2-b*d*e+a*e^2)^2*_
(a+b*x+c*x^2))-1/4*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/sqrt(2*c*d-_
e*(b-sqrt(b^2-4*a*c))))*sqrt(c)*(8*c^3*d^3+3*b^2*e^3*(b+_
sqrt(b^2-4*a*c))-2*c^2*d*e*(6*b*d-16*a*e-d*sqrt(b^2-4*a*c))-2*c*e^2*_
(b^2*d+8*a*b*e+b*d*sqrt(b^2-4*a*c)+5*a*e*sqrt(b^2-4*a*c)))/_
((b^2-4*a*c)^(3/2)*(c*d^2-b*d*e+a*e^2)^2*sqrt(2)*sqrt(2*c*d-_
e*(b-sqrt(b^2-4*a*c))))+1/4*e*atanh(sqrt(2)*sqrt(c)*sqrt(d+e*x)/_
sqrt(2*c*d-e*(b+sqrt(b^2-4*a*c))))*sqrt(c)*(8*c^3*d^3+3*b^2*e^3*_
(b-sqrt(b^2-4*a*c))-2*c^2*d*e*(6*b*d-16*a*e+d*sqrt(b^2-4*a*c))-_
2*c*e^2*(b^2*d+8*a*b*e-b*d*sqrt(b^2-4*a*c)-5*a*e*sqrt(b^2-4*a*c)))/_
((b^2-4*a*c)^(3/2)*(c*d^2-b*d*e+a*e^2)^2*sqrt(2)*sqrt(2*c*d-_
e*(b+sqrt(b^2-4*a*c))))
--E 464
```

```
--S 465 of 465
```

```
d0:=normalize(t0-D(r0,x))
--E 465
```

```
)spool
)lisp (bye)
```

## References

- [1] nothing