I Definitions

Let
$$W(x) := \left(-\frac{x}{2} + \left(\frac{1}{27} + \frac{x^2}{4}\right)^{1/2}\right)^{1/3} - \left(\frac{x}{2} + \left(\frac{1}{27} + \frac{x^2}{4}\right)^{1/2}\right)^{1/3}$$
 and define $Lz := -az - b\frac{\partial z}{\partial x}$, where $a(x) := 1 + \frac{W(x)}{x} + \frac{\partial W}{\partial x}(x)$ and $b(x) := \frac{3x}{2} + W(x)$.

II Computation in Sobolev spaces

Let $\langle f,g\rangle := \langle f,g\rangle_{L^2} = \int_{\mathbb{R}} f(x)g(x)\,dx$ be the usual inner product of $L^2(\mathbb{R})$. Let $w,z\in H^k(\mathbb{R})$ for k large enough. For simplicity, we will denote $\frac{\partial z}{\partial x}:=z'$.

II.1 Symetric part in L^2 space

In L^2 , the symetric part is computed as follows:

$$\langle Lz, w \rangle_{L^2} = \langle -az - bz', w \rangle = \langle z, -aw \rangle - \langle z, b'w + bw' \rangle$$
$$= \langle z, (-a + b')w + bw' \rangle = \langle z, L^*w \rangle$$

Thus,
$$\frac{1}{2}(L+L^*)z = \frac{1}{2}(-az - bz' - az + b'z + bz') = -az + \frac{b'}{2}z$$
 in L^2 .

II.2 Quadratic form in H^1 space

In H^1 , the quadratic form is computed as follows:

$$\begin{split} \langle Lz,z\rangle_{H^1} &= \langle -az-bz',z\rangle + \langle -a'z-az'-b'z'-bz'',z'\rangle \\ &= \langle -az,z\rangle + \langle -bz-a'z,z'\rangle + \langle -az'-b'z',z'\rangle + \langle -bz',z''\rangle \\ &= \langle -az,z\rangle + \langle \frac{1}{2}(b'+a'')z,z\rangle + \langle (-a-b')z',z'\rangle + \langle \frac{1}{2}b'z',z'\rangle \\ &= \langle (-a+\frac{b'}{2}+\frac{a''}{2})z,z\rangle + \langle (-a-\frac{b'}{2})z',z'\rangle \end{split}$$

REMARQUE. The operator (Lz)' is not defined on H^1 as it involves second derivatives of z, but it is a classical fact that the quadratic form of an operator as a larger domain that the operator itself.

II.3 Quadratic form in H^2 space

In H^2 , the quadratic form is computed as follows:

$$\begin{split} \langle (Lz)'',z''\rangle &= \langle -a''z - a'z' - a'z' - az'' - b''z' - b'z'' - bz^{(3)},z''\rangle \\ &= \langle -a''z,z''\rangle + \langle (-2a'-b'')z',z''\rangle + \langle (-a-2b')z'',z''\rangle + \langle -bz^{(3)},z''\rangle \\ &= \langle a^{(3)}z + a''z',z'\rangle + \langle \frac{1}{2}(2a''+b^{(3)})z',z'\rangle + \langle (-a-2b')z'',z''\rangle + \langle \frac{1}{2}b'z'',z''\rangle \\ &= \langle -\frac{1}{2}a^{(4)}z,z\rangle + \langle 2a'' + \frac{1}{2}b^{(3)})z',z'\rangle + \langle (-a-\frac{3}{2}b')z'',z''\rangle \end{split}$$

Thus, we have in H^2 :

$$\langle Lz, z \rangle_{H^2} = \langle (-a + \frac{b'}{2} + \frac{a''}{2} - \frac{a^{(4)}}{2})z, z \rangle + \langle (-a - \frac{b'}{2} + 2a'' + \frac{b^{(3)}}{2})z', z' \rangle + \langle (-a - \frac{3}{2}b')z'', z'' \rangle$$

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II.4 Quadratic form in H^3 space

In H^3 , the quadratic form is computed as follows:

$$\begin{split} \langle (Lz)^{(3)},z^{(3)}\rangle &= \langle -a'''z-3a''z'-3a'z''-az^{(3)}-b'''z'-3b''z''-3b'z^{(3)}-bz^{(4)},z^{(3)}\rangle \\ &= \langle -a'''z,z^{(3)}\rangle + \langle (-3a''-b''')z',z^{(3)}\rangle + \langle (-3a'-3b'')z'',z^{(3)}\rangle + \langle (-a-3b')z^{(3)},z^{(3)}\rangle \\ &+ \langle -bz^{(4)},z^{(3)}\rangle \\ &= \langle a^{(4)}z+a'''z',z''\rangle + \langle (3a'''+b^{(4)})z'+(3a''+b''')z'',z''\rangle + \langle \frac{3}{2}(a''+b''')z'',z''\rangle \\ &+ \langle (-a-3b')z^{(3)},z^{(3)}\rangle + \langle \frac{1}{2}b'z^{(3)},z^{(3)}\rangle \\ &= \langle -a^{(5)}z-a^{(4)}z',z'\rangle + \langle -\frac{1}{2}a^{(4)}z',z'\rangle + \langle \frac{1}{2}(-3a^{(4)}-b^{(5)})z',z'\rangle + \langle (3a''+b''')z'',z''\rangle \\ &+ \langle \frac{3}{2}(a''+b''')z'',z''\rangle + \langle (-a-3b')z^{(3)},z^{(3)}\rangle + \langle \frac{1}{2}b'z^{(3)},z^{(3)}\rangle \\ &= \langle \frac{a^{(6)}}{2}z,z\rangle + \langle (-3a^{(4)}-\frac{1}{2}b^{(5)})z',z'\rangle + \langle (\frac{9}{2}a''+\frac{5}{2}b^{(3)})z'',z''\rangle + \langle (-a-\frac{5}{2}b')z^{(3)},z^{(3)}\rangle \end{split}$$

Thus, we have in H^3 :

$$\begin{split} \langle Lz,z\rangle_{H^3} &= \langle (-a+\frac{b'}{2}+\frac{a''}{2}-\frac{a^{(4)}}{2}+\frac{a^{(6)}}{2})z,z\rangle + \langle (-a-\frac{b'}{2}+2a''+\frac{b^{(3)}}{2}-3a^{(4)}-\frac{1}{2}b^{(5)}))z',z'\rangle \\ &+ \langle (-a-\frac{3}{2}b'+\frac{9}{2}a''+\frac{5}{2}b^{(3)})z'',z''\rangle + \langle (-a-\frac{5}{2}b')z^{(3)},z^{(3)}\rangle \end{split}$$

III Compact part of the quadratic form

We proved in the previous section that the quadratic form associated with L in H^3 is of the form :

$$\langle Lz, z \rangle_{H^3} = \langle \varphi_0 z, z \rangle + \langle \varphi_1 z', z' \rangle + \langle \varphi_2 z'', z'' \rangle + \langle \varphi_3 z^{(3)}, z^{(3)} \rangle$$

In the next section, we will show that φ_3 has a sign and is bounded. This leaves to study the lower order terms, and we will prove that there exists a compact operator M such that

$$\langle Mz, z \rangle_{H^3} = \langle \varphi_0 z, z \rangle + \langle \varphi_1 z', z' \rangle + \langle \varphi_2 z'', z'' \rangle$$

Combining those results yield the following energy estimate:

$$\langle Lz, z \rangle_{H^3} \leqslant -\delta \|z\|_{H^3} + \langle Mz, z \rangle_{H^3}$$

We will use the Fourier transform, with the following convention:

$$\hat{f}(\xi) := \mathcal{F}(f)(\xi) = \int_{-\infty}^{\infty} f(x) e^{-2\pi i x \xi} dx$$

and we will denote

$$\mathcal{F}^{-1}(f)(x) := \int_{-\infty}^{\infty} f(\xi) e^{2\pi i x \xi} d\xi$$

the inverse Fourier transform.

III.1 Base case

We want to find M_0 such that

$$\langle M_0 z, z \rangle_{H^3} = \langle \varphi_0 z, z \rangle \tag{3.1}$$

The Parseval identity gives:

$$\int \hat{z}(\xi)\widehat{M_0z}(\xi)(1+\xi^2)^3d\xi = \int \hat{z}(\xi)\widehat{\varphi_0z}(\xi)d\xi$$

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Thus, choosing M_0 such that $\widehat{M_0z}(\xi) = \frac{1}{(1+\xi^2)^3}\widehat{\varphi_0z}(\xi)$ would give the equality. Defining $\lambda_0(\xi) := \frac{1}{(1+\xi^2)^3}$, this condition is equivalent to:

$$\widehat{M_0 z} = \widehat{\mathcal{F}^{-1}(\lambda_0)} \widehat{\varphi_0 z} = \widehat{\mathcal{F}^{-1}(\lambda_0) * \varphi_0 z}$$

i.e. $M_0 z = \mathcal{F}^{-1}(\lambda_0) * \varphi_0 z$ satisfies eq. (3.1).

III.2 First order case

We want to find M_1 such that

$$\langle M_1 z, z \rangle_{H^3} = \langle \varphi_1 z', z' \rangle$$
 (3.2)

Integrating by parts and applying the Parseval identity, we have the equivalence

$$\langle M_1 z, z \rangle_{H^3} = -\langle \varphi_1' z' + \varphi_1 z'', z \rangle = -\langle \varphi_1' z, z' \rangle - \langle \varphi_1 z, z'' \rangle$$

$$\Leftrightarrow \int \hat{z}(\xi) \widehat{M_1 z}(\xi) (1 + \xi^2)^3 d\xi = -\int (2\pi i \xi) \hat{z}(\xi) \widehat{\varphi_1' z}(\xi) d\xi + \int (4\pi^2 \xi^2) \hat{z}(\xi) \widehat{\varphi_1 z}(\xi) d\xi$$

$$\Leftrightarrow \int \hat{z}(\xi) \widehat{M_1 z}(\xi) (1 + \xi^2)^3 d\xi = \int \hat{z} \left[-(2\pi i \xi) \widehat{\varphi_1' z}(\xi) + (4\pi^2 \xi^2) \hat{z}(\xi) \widehat{\varphi_1 z}(\xi) \right] d\xi$$

Defining $\lambda_1(\xi) := -\frac{2\pi i \xi}{(1+\xi^2)^3}$ and $\lambda_2(\xi) := \frac{4\pi^2 \xi^2}{(1+\xi^2)^3}$, we have that

$$M_1z := \left(\mathcal{F}^{-1}(\lambda_1) * \varphi_1'z\right) + \left(\mathcal{F}^{-1}(\lambda_2) * \varphi_1z\right)$$

satisfies eq. (3.2).

III.3 Second order case

We want to find M_2 such that

$$\langle M_2 z, z \rangle_{H^3} = \langle \varphi_2 z'', z'' \rangle \tag{3.3}$$

Integrating by parts twice and applying the Parseval identity, we have the equivalence

$$\langle M_2 z, z \rangle_{H^3} = \langle \varphi_2'' z'' + 2\varphi_2' z^{(3)} + \varphi_2 z^{(4)}, z \rangle = \langle \varphi_2'' z, z'' \rangle + \langle 2\varphi_2' z, z^{(3)} \rangle + \langle \varphi_2 z, z^{(4)} \rangle$$

$$\Leftrightarrow \int \hat{z}(\xi) \widehat{M_2 z}(\xi) (1 + \xi^2)^3 d\xi = -\int (4\pi^2 \xi^2) \hat{z}(\xi) \widehat{\varphi_2'' z}(\xi) d\xi - \int (i16\pi^3 \xi^3) \hat{z}(\xi) \widehat{\varphi_2' z}(\xi) d\xi + \int (16\pi^4 \xi^4) \hat{z}(\xi) \widehat{\varphi_2 z}(\xi) d\xi$$

$$\Leftrightarrow \int \hat{z}(\xi) \widehat{M_2 z}(\xi) (1 + \xi^2)^3 d\xi = \int \hat{z} \left[-(4\pi^2 \xi^2) \widehat{\varphi_2'' z}(\xi) - (i16\pi^3 \xi^3) \hat{z}(\xi) \widehat{\varphi_2' z}(\xi) + (16\pi^4 \xi^4) \widehat{\varphi_2 z}(\xi) \right] d\xi$$

Defining $\lambda_3(\xi) := -\frac{i16\pi^3\xi^3}{(1+\xi^2)^3}$ and $\lambda_4(\xi) := \frac{16\pi^4\xi^4}{(1+\xi^2)^3}$, we have that

$$M_2z := \left(-\mathcal{F}^{-1}(\lambda_2) * \varphi_2''z\right) + \left(\mathcal{F}^{-1}(\lambda_3) * \varphi_2'z\right) + \left(\mathcal{F}^{-1}(\lambda_4) * \varphi_2z\right)$$

satisfies eq. (3.3).

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 $1/54*(pi^{4}*(4*pi^{2}*(x-y)^{2}+4*pi*abs(x-y)+1)*e^{(-2*pi*abs(x-y))+12*pi^{4}*e^{(-2*pi*abs(x-y))-8*pi^{3}*}$ $(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*(45*(9*sqrt(1/3)*y/sqrt(27*y))*(45*(9*sqrt(1/3)*y/sqrt(1/3)*y$ $y^2+4)+1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-35*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^3/(1/6*xqrt(1/3)*y/sqrt(27*y^2+4)+1)^3/(1/6*xqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(2/3)-35*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^3/(1/6*xqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(2/3)-35*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(1/6*xqrt(1/3)*y/sqrt(1/$ $sqrt(1/3) * sqrt(27 * y^2 + 4) + 1/2 * y)^{(8/3)} - 45 * (9 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) *$ $y^{2}+4)-1/2*y)(2/3)+35*(9*sqrt(1/3)*y/sqrt(27*y^{2}+4)-1)^{3}/(1/6*sqrt(1/3)*sqrt(27*y^{2}+4)-1/2*y)(8/3)-1/2*y)(1/6*sqrt(1/3)*sqrt(1$ $1134*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)*(27*sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)/sqrt(1$
$4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3)+1134*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*sqrt(1/3)*y/sqrt$ $y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4) - 1/2*y)(5/3) - 91854*(27*y^2+4) - 1/2*y)(5/3) - 91854*(27*y^2+4) - 1/2*y$ $sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3) + t^2 + t$ $91854*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2)-sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-sqrt(1/3)*y^3/(27*y^2+4)(5/2)-sqrt(1/3)*y^3/(27*y^2+4)($ $\frac{1}{2}*y)^{(2/3)} + 108*(\frac{1}{6}*sqrt(\frac{1}{3})*sqrt(\frac{27}{3}*y^2+4) + \frac{1}{2}*y)^{(1/3)} - (\frac{1}{6}*sqrt(\frac{1}{3})*sqrt(\frac{27}{3}*y^2+4) - \frac{1}{2}*y^2+4) + \frac{1}{2}*y^2+4) + \frac{1}{2}*y^2+4 +$ $y)(1/3)/y + 27*((9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3) - (9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(5/3) - (9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(5/3) - (9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(5/3) - (9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(5/3) - (9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(5/3) - (9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(5/3) - (9*sqrt(1/3)*y/sq$ $sqrt(1/3)*y/sqrt(27*y^2+4)-1)^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*q^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*q^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*y)(5/3)+27*(27*q^2+4)-1/2*$
$y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-27*(27*sqrt(1/3)*sqrt(1/$ $y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4) - 1/2*y)(2/3))/y + 162*((9*x^2+4)(1/3))/y + 162*((9*x^2+4)(1/3))/y$ $sqrt(1/3)*y/sqrt(27*y^2+4)+1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(1/3)*y/sqrt(1/$ $y^2+4)-1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y^2-972*((1/6*sqrt(1/3)*sqrt(1/6*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqrt(1/6)*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqrt(1/6)*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqrt(1/6)*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqrt$ $y)^{(1/3)} - (1/6*sqrt(1/3)*sqrt(27*y^2+4) - 1/2*y)^{(1/3)})/y^3 - 351) + 1/648*(pi^3*(4*pi^2*(x-y)^2 + 4*pi*abs(x-y)^2 + 4*pi*abs(x-y)^$ $y)+1)*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(x-y)-6*pi$ $(y) +
6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*(90*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*y/$ $sqrt(27*y^2+4)+1/2*y)(5/3)-280*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^4/(1/6*sqrt(1/3)*sqrt(1/3)*sqr$ $1/2*y)(11/3) - 90*(9*sqrt(1/3)*y/sqrt(27*y^2+4) - 1)^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4) - 1/2*y)(5/3) + 280*y(11/3) + 280*y(11/3)$ $(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)^4/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(11/3)+2430*(27*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(11/3)+2430*(27*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(11/3)+2430*(27*sqrt(1/3)*y/sqrt(1/3)*y$ $y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3) - 2430*(27*y^2+4)+1/2*y)(2/3)$ $11340*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)^{(3/2)}-sqrt(1/3)/sqrt(27*y^2+4)^{(3/2)}$ $4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(8/3)+11340*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)^2*(27*sqrt(1/3)*y/sqrt(1/3)$ $y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4) - 1/2*y)(8/3) -
61236*(27*y^2+4)(1/3)*sqrt(1/3$ $sqrt(1/3)*y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3) + sqrt(1/3)*y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3) + sqrt(1/3)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3) + sqrt(1/3)(3/2) - sqrt(1/3)(3/2$ $y)(5/3) - 734832*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(5/2)$ $y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3)+734832*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)+734832*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)+734832*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)+734832*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)+734832*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)+734832*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)+1/2*y$ $sqrt(1/3)*y^3/(27*y^2+4)^(5/2) - sqrt(1/3)*y/(27*y^2+4)^(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)^(5/3) - t^2(1/3)*y^3/(27*y^2+4)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1/3)^2(1$ $551124*(3645*sqrt(1/3)*y^4/(27*y^2+4)^{(7/2)} - 162*sqrt(1/3)*y^2/(27*y^2+4)^{(5/2)} + sqrt(1/3)/(27*y^2+4)^{(5/2)} + sqrt(1/3)/(27*y^2+4)/(27*y^2+$ $4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)+551124*(3645*sqrt(1/3)*y^4/(27*y^2+4)(7/2)-162*y^2+4)+1/2*y)(2/3)+551124*(3645*sqrt(1/3)*y^4/(27*y^2+4)(7/2)-162*y^2+4)+1/2*y)(2/3)+1/2*y^2+1/2*y$ $sqrt(1/3)*y^2/(27*y^2+4)(5/2) + sqrt(1/3)/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3) - true (1/3)*y^2/(27*y^2+4)(5/2) + sqrt(1/3)/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3) - true
(1/3)*sqrt(1$ $108*((9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(1/3)*y$ $y/sqrt(27*y^2+4)-1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y+27*(5*(9*sqrt(1/3)*y/sq$ $y^2+4)+1)^3/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(8/3)-5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)^3/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)-1)^3/(1/6*sqrt(1/3)*y/sqrt(27*y^2+4)-1)^3/(1/6*sqrt(1/3)*y/sq$
$sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(8/3)+162*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/$ $y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27*y^2 + 4))/(1/6*sqrt(1/3)*sqrt(27*y^2 + 4) + 1/2*y)(5/3) - 162*(9*sqrt(1/3)*sqrt($ $y/sqrt(27*y^2+4)-1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt$ $sqrt(27*y^2+4)-1/2*y)(5/3)+13122*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2)-sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*y^2+4)(1/3)*y/($ $sqrt(1/3) * sqrt(27 * y^2 + 4) + 1/2 * y)^{(2/3)} - 13122 * (27 * sqrt(1/3) * y^3/(27 * y^2 + 4)^{(5/2)} - sqrt(1/3) * y/(27 * y^2 +$
$4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3))/y+648*((1/6*sqrt(1/3)*sqrt(1/6*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqrt(1/6)*y)(2/3))/y+648*((1/6*sqrt(1/6)*sqrt(1/6)*sqrt(1/6)*sqrt(1/6)*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqrt(1/6)*sqrt(1/6)*sqrt(1/6*sqrt(1/6)*sqr$ $y)^{(1/3)} - (1/6*sqrt(1/3)*sqrt(27*y^2+4) - 1/2*y)^{(1/3)})/y^2 + 486*((9*sqrt(1/3)*y/sqrt(27*y^2+4) + 1)^2/(1/6*y^2+4) + 1/2*y)^{(1/3)} + 1/2*y^2 + 1/2*$ $sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)^2/(1/6*sqrt(1/3)*sqrt(1/3)*sq$ $4) - 1/2 * y) (5/3) + 27 * (27 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * sqrt(1/3)$ $y^2 + 4) + 1/2 * y)(2/3) - 27 * (27 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(1/$ $sqrt(27*y^2+4) - 1/2*y)(2/3))/y^2 + 2916*((9*sqrt(1/3)*y/sqrt(27*y^2+4) + 1)/(1/6*sqrt(1/3)*sqrt(27*y^2 + 1) + 1)/(1/6*sqrt(1/3)*sqrt(27*y^2 + 1)/(1/6*sqrt(1/3)*sqrt(27*y^2 + 1)/(1/6*sqrt(1/3)*sqrt(27*y^2 + 1)/(1/6*sqrt(1/3)*sqrt(27*y^2 + 1)/(1/6*sqrt(1/3)*sq$ $4) + 1/2 * y)(2/3) - (9 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1/2 * y)(2/3))/y^3 - (1/3) * sqrt(2/3) + (1/3) * sqrt(2/3) +$ $17496*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(1/3)-(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3))/y^4)-(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3)+(1/6*sqrt(1/3)*sqrt(1/6*sqrt(1/3)*sqrt(1/6*sqrt(1/6)*q)+(1/6*sq$

Sacha Ben-Arous 4 E.N.S Paris-Saclay

 $1/1944*(pi^3*(4*pi^2*(x-y)^2+4*pi*abs(x-y)+1)*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)^2+4*pi*abs(x-y)+1)*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)^2+4*pi*abs(x-y)+1)*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)^2+4*pi*abs(x-y)+1)*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)^2+4*pi*abs(x-y)+1)*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)^2+4*pi*abs(x-y)^2+4*pi*abs(x-y)+1)*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y)-6*pi^2*(2*pi^2*(x-y)^2+4*pi*abs(x-y)$ $(x-y)+pi*(x-y)/abs(x-y))*e^{(-2*pi*abs(x-y))+6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*(225*pi*abs(x-y))*e^{(-2*pi*abs(x-y))+6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))+6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))+6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))+6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))+6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))+6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))+6*pi^3*(x-y)*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))/abs(x-y)}*e^{(-2*pi*abs(x-y))/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y))}*e^{(-2*pi*abs(x-y))/abs(x-y))*e^{(-2*pi*abs(x-y))/abs(x-y)}*e^{(-2*pi*abs(x (9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^3/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(8/3)-1540*(9*sqrt(1/3)*y/s$ $y/sqrt(27*y^2+4)+1)^5/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(14/3)-225*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)(14/3)+1/2*y^2+1/2*$ $(4) - 1)^{3}/(1/6 * sqrt(1/3) * sqrt(27 * y^{2} + 4) - 1/2 * y)^{(8/3)} + 1540 * (9 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(27 * y^{2} + 4) - 1)^{5}/(1/6 * sqrt(1/3) * y/sqrt(1/3) * y/sqrt(1/3$
$sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(14/3)+7290*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)*(27*sqrt(1/3)*y^$ $y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27*y^2 + 4))/(1/6*sqrt(1/3)*sqrt(27*y^2 + 4) + 1/2*y)(5/3) - 75600*(9*sqrt(1/3)*sqr$ $y/sqrt(27*y^2+4)+1)^3*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sq$ $sqrt(27*y^2+4)+1/2*y)(11/3)-7290*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-1)*(27*sqrt(1/3)*y^2/(27*y^2-1)*(27*sqrt(1/3)*y^2/(27*y^2-1)*(27*sqrt(1/3)*y^2/(27*y^2-1)*(27*sqrt(1/3)*y^2/(27*y^2-1)*(27*sqrt(1/3)*y^2/(27*y^2-1)*(27*sqrt(1/3)*y^2/(27*y^2-1)*(27*sqrt(1/3)*y^2/(27*y^2-1)$
$sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(5/3)+75600*(9*sqrt(1/3)*y/sqrt(1/3)*y$ $4)-1)^3*(27*sqrt(1/3)*y^2/(27*y^2+4)^{(3/2)}-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*)$ $y)(11/3) - 765450*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)*(27*sqrt($ $(y^2+4)^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(8/3)+765450*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(8/3)+765450*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(8/3)+765450*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(8/3)+765450*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(8/3)+765450*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(8/3)+1/2*y$ $sqrt(1/3)*y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(8/3) + sqrt(1/3)*y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(8/3) + sqrt(1/3)(1/6*sqrt(1/3)*sq$ $590490*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4) + (1/3)*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y^3/$ $1/2*y)(2/3) - 590490*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y^3/(27*y^2+4)(5/2) - s$
$sqrt(27*y^2+4)-1/2*y)(2/3)-4592700*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^3/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt(1/3)*y^2+1)^2*(27*sqrt($ $4)^{(5/2)} - sqrt(1/3) * y/(27 * y^2 + 4)^{(3/2)})/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) + 1/2 * y)^{(8/3)} + 4592700 * (9 * sqrt(1/3) * y^2 + 1/2 *$ $y/sqrt(27*y^2+4)-1)^2*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2)-sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*y^3/(27*y^2+4)(5/2)-sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*y^3/(27*y^2+4)(5/2)-sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*y/(27*y^2+4)(3/2)*y/(27*y^2+4)(3/2)(3/2)$ $sqrt(27*y^2+4)-1/2*y)(8/3)-49601160*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))*$ $(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4) + 1/2*y^2+4) + 1/2*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y^3/(27*y^$ $y)(5/3) + 49601160 * (27 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4)) * (27 * sqrt(1/3) * y^3/(27 *$ $y^2 + 4)(5/2) - sqrt(1/3) * y/(27 * y^2 + 4)(3/2))/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1/2 * y)(5/3) - 2755620 * (9 * y^2 + 4)(3/2))/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1/2 * y)(5/3) - 2755620 * (9 * y^2 + 4)(3/2))/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1/2 * y)(5/3) - 2755620 * (9 * y^2 + 4)(3/2))/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1/2 * y)(5/3) - 2755620 * (9 * y^2 + 4)(3/2))/(1/6 * sqrt(1/3) * sqrt(1/3)$ $sqrt(1/3)/(27*y^2+4)^(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+2755620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+275620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+275620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+275620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+275620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+275620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+275620*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1/2*y)^(5/3)+275620*(9*sqrt(1/3)*y/sqrt(1/3)*$
$y^2+4)-1)*(3645*sqrt(1/3)*y^4/(27*y^2+4)^{(7/2)}-162*sqrt(1/3)*y^2/(27*y^2+4)^{(5/2)}+sqrt(1/3)/(27*y^2+4)^{(7/2)}-162*sqrt(1/3)*y^2/(27*y^2+4)^{(5/2)}+sqrt(1/3)/(27*y^2+4)^{(7/2)}-162*sqrt(1/3)*y^2/(27*y^2+4)^{(5/2)}+sqrt(1/3)/(27*y^2+4)^{(7/2)}-162*sqrt(1/3)*y^2/(27*y^2+4)^{(5/2)}+sqrt(1/3)/(27*y^2+4)^{(7/2)}-162*sqrt(1/3)*y^2/(27*y^2+4)^{(5/2)}+sqrt(1/3)/(27*y^2+4)^{(7/2)}+sqrt(1/2)/(27*y^2+4)^{(7/2)}+sqrt(1/2)/(27*y^2+4)^{(7/2)}+sqrt(1/2)/(27*y^2+4)^{(7/2)}+sqrt(1/2)/(2$ $4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(5/3)-669615660*(1701*sqrt(1/3)*y^5/(27*y^2+4)(9/2)-90*)$ $sqrt(1/3)*y^3/(27*y^2+4)^{(7/2)} + sqrt(1/3)*y/(27*y^2+4)^{(5/2)})/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)^{(2/3)} + constant (1/3)*y^3/(27*y^2+4)^{(7/2)} + constant ($ $669615660*(1701*sqrt(1/3)*y^5/(27*y^2+4)(9/2) - 90*sqrt(1/3)*y^3/(27*y^2+4)(7/2) + sqrt(1/3)*y/(27*y^2+4)(1/2) + sqrt(1/3)*y^3/(27*y^2+4)(1/2) + sqrt(1/2) + sqrt(1/$ $4)(5/2)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3)-108*((9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*x^2+4)+10^2/(1/6*x^2+4)+10^2$ $sqrt(1/3) * sqrt(27 * y^2 + 4) + 1/2 * y)^{(5/3)} - (9 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^2/(1/6 * sqrt(1/3) * sqrt(1/3$ $4) - 1/2 * y)^{(5/3)} + 27 * (27 * sqrt(1/3) * y^2/(27 * y^2 + 4)^{(3/2)} - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * sqrt($ $y^2 + 4) + 1/2 * y)(2/3) - 27 * (27 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4))/(1/6 * sqrt(1/3) * y^2/(27 * y^2 + 4)(3/2) - sqrt(1/3)/sqrt(27 * y^2 + 4)(3/2) - sqrt(1/3)/$ $sqrt(27*y^2+4)-1/2*y)(2/3))/y+54*(10*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^4/(1/6*sqrt(1/3)*sqrt(1/3)*sqrt(1/$ $4) + 1/2 * y)^{(11/3)} - 10 * (9 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^4 / (1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) - 1/2 * y)^{(11/3)} + 1/2 * y$
$405*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*y^2+4)+1)^2*(27*sqrt(1/3)*y^2/(27*sqr$ $4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(8/3)-405*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)^2*(27*sqrt(1/3)*y/sqrt(1/3)*y$ $y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4) - 1/2*y)(8/3) + 2187*(27*y^2+4)$ $sqrt(1/3)*y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3) - sqrt(1/3)*sqrt(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3) - sqrt(1/3)/sqrt(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3) - sqrt(1/3)/sqrt(27*y^2+4)(3/2) - sqrt(1/3)/sqrt$ $2187*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2) - sqrt(1/3)/sqrt(27*y^2+4))^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4) - 1/2*y^2 + 1/2 + 1$ $y)(5/3) + 26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)+1)*(27*sqrt(1/3)*y/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(5/2)$
$y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)*(27*y^2+4)+1/2*y)(5/3)-26244*(9*sqrt(1/3)*y/sqrt(1$ $sqrt(1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(5/3) + true (1/3)*y^3/(27*y^2+4)(5/2) - sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(5/3) + true (1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(5/3) + true (1/3)*sqrt(1/3$ $19683* (3645* sqrt(1/3)* y^4/(27* y^2 + 4)^{(7/2)} - 162* sqrt(1/3)* y^2/(27* y^2 + 4)^{(5/2)} + sqrt(1/3)/(27* y^2 + 4)^{(5/2)} + sqrt(1/3)$ $sqrt(1/3)*y^2/(27*y^2+4)(5/2)+sqrt(1/3)/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y-1/2*y^2/(27*y^2+4)(3/2)+sqrt(1/3)(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y-1/2*y^2/(27*y^2+4)(3/2)+sqrt(1/3)(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y-1/2*y^2/(27*y^2+4)(3/2)+sqrt(1/3)(3/2)+sqr$ $648*(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(1$
$y/sqrt(27*y^2+4)-1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+324*(5*(9*sqrt(1/3)*y/sqrt(27*y/sqrt(1/3)*y/sqrt(27*y/sqrt(1/3)*y/sqr$ $y^2 + 4) + 1)^3 / (1/6 * sqrt(1/3) * sqrt(27 * y^2 + 4) + 1/2 * y)(8/3) - 5 * (9 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) - 1)^3 / (1/6 * sqrt(1/3) * y/sqrt(1/3) * y/sqrt(1/3$ $sqrt(1/3) * sqrt(27 * y^2 + 4) - 1/2 * y)(8/3) + 162 * (9 * sqrt(1/3) * y/sqrt(27 * y^2 + 4) + 1) * (27 * sqrt(1/3) * y^2/(27 * y^2 + 4) + 1) * (27 * sq$ $y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3)-162*(9*sqrt(1/3)*sqrt(1/$ $y/sqrt(27*y^2+4)-1)*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt(1/3)/sqrt(1/3)-sqrt($

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 $sqrt(27*y^2+4)-1/2*y)(5/3)+13122*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2)-sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-13122*(27*sqrt(1/3)*y^3/(27*y^2+4)(5/2)-sqrt(1/3)*y/(27*y^2+4)(3/2))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y^2+3888*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(1/3)-(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3))/y^3+5832*((9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(5/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)^2/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(5/3)+27*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-27*(27*sqrt(1/3)*y^2/(27*y^2+4)(3/2)-sqrt(1/3)/sqrt(27*y^2+4))/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)+1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(2/3)-(9*sqrt(1/3)*y/sqrt(27*y^2+4)-1)/(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(2/3))/y^4-209952*((1/6*sqrt(1/3)*sqrt(27*y^2+4)+1/2*y)(1/3)-(1/6*sqrt(1/3)*sqrt(27*y^2+4)-1/2*y)(1/3))/y^5)$

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