

```
> restart;
read("c:/appl/app17.txt");
```

PROCEDURES:

*AllPermutations(n), AllCombinations(n, k), Benford(X), BootstrapRV(Data),
CDF:CHF:HF:IDF:PDF:SF(X, [x]), CoefOfVar(X), Convolution(X, Y),
ConvolutionIID(X, n), CriticalPoint(X, prob), Determinant(MATRIX), Difference(X, Y),
Display(X), ExpectedValue(X, [g]), KSTest(X, Data, Parameters), Kurtosis(X),
Maximum(X, Y), MaximumIID(X, n), Mean(X), MGF(X), Minimum(X, Y),
MinimumIID(X, n), Mixture(MixParameters, MixRVs),
MLE(X, Data, Parameters, [Rightcensor]), MLENHPP(X, Data, Parameters, obstime),
MLEWeibull(Data, [Rightcensor]), MOM(X, Data, Parameters),
NextCombination(Previous, size), NextPermutation(Previous), OrderStat(X, n, r, ["wo"]),
PlotDist(X, [low], [high]), PlotEmpCDF(Data, [low], [high]),
PlotEmpCIF(Data, [low], [high]), PlotEmpSF(Data, Censor),
PlotEmpVsFittedCDF(X, Data, Parameters, [low], [high]),
PlotEmpVsFittedCDF(X, Data, Parameters, [low], [high]),
PlotEmpVsFittedSF(X, Data, Parameters, Censor, low, high),
PPPlot(X, Data, Parameters), Product(X, Y), ProductIID(X, n),
QQPlot(X, Data, Parameters), RangeStat(X, n, ["wo"]), Skewness(X), Transform(X, g),
Truncate(X, low, high), Variance(X), VerifyPDF(X)*

Procedure Notation:

X and Y are random variables

Greek letters are numeric or symbolic parameters

x is numeric or symbolic

n and r are positive integers, n >= r

low and high are numeric

g is a function

Brackets [] denote optional parameters

"double quotes" denote character strings

MATRIX is a 2 x 2 array of random variables

*A capitalized parameter indicates that it must be
entered as a list --> ex. Data := [1, 12.4, 34, 52.45, 63]*

Variate Generation:

*ArcTanVariate(alpha, phi), BinomialVariate(n, p, m), ExponentialVariate(lambda),
NormalVariate(mu, sigma), UniformVariate(), WeibullVariate(lambda, kappa, m)*

DATA SETS:

BallBearing, HorseKickFatalities, Hurricane, MP6, RatControl, RatTreatment, USSHalfBeak

ArcSinRV(), ArcTanRV(alpha, phi), BetaRV(alpha, beta), CauchyRV(a, alpha), ChiRV(n),

`ChiSquareRV(n), ErlangRV(lambda, n), ErrorRV(mu, alpha, d), ExponentialRV(lambda),`
`ExponentialPowerRV(lambda, kappa), ExtremeValueRV(alpha, beta), FRV(n1, n2),`
`GammaRV(lambda, kappa), GeneralizedParetoRV(gamma, delta, kappa),`
`GompertzRV(delta, kappa), HyperbolicSecantRV(), HyperExponentialRV(p, l),`
`HypoExponentialRV(l), IDBRV(gamma, delta, kappa), InverseGaussianRV(lambda, mu),`
`InvertedGammaRV(alpha, beta), KSRV(n), LaPlaceRV(omega, theta),`
`LogGammaRV(alpha, beta), LogisticRV(kappa, lambda), LogLogisticRV(lambda, kappa),`
`LogNormalRV(mu, sigma), LomaxRV(kappa, lambda), MakehamRV(gamma, delta, kappa),`
`MuthRV(kappa), NormalRV(mu, sigma), ParetoRV(lambda, kappa), RayleighRV(lambda),`
`StandardCauchyRV(), StandardNormalRV(), StandardTriangularRV(m),`
`StandardUniformRV(), TRV(n), TriangularRV(a, m, b), UniformRV(a, b),`
`WeibullRV(lambda, kappa)`

Error, attempting to assign to `DataSets` which is protected.
Try declaring `local DataSets`; see ?protect for details.

```

> bf := InvertedGammaRV(2,3);
bfname := "InvertedGammaRV(2,3)";
bf := 
$$\left[ \left[ x \rightarrow \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3} \right], [0, \infty], ["Continuous", "PDF"] \right]$$

bfname := "InvertedGammaRV(2,3)" (1)

> #plot(1/csch(t)+1, t = 0..0.0010);
#plot(diff(1/csch(t), t), t=0..0.0010);
#limit(1/csch(t), t=0);
> solve(exp(-t) = y, t);
                                         -ln(y) (2)

```

```

> # discarded -ln(t + 1), t-> csch(t), t->arccsch(t), t -> tan(t),
> #name of the file for latex output
filename := "C:/LatexOutput/InvertedGamma.tex";

glist := [t -> t^2, t -> sqrt(t), t -> 1/t, t -> arctan(t), t
-> exp(t), t -> ln(t), t -> exp(-t), t -> -ln(t), t -> ln(t+1),
t -> 1/(ln(t+2)), t -> tanh(t), t -> sinh(t), t -> arcsinh(t),
t-> csch(t+1), t->arccsch(t+1), t-> 1/tanh(t+1), t-> 1/sinh(t+1),
t-> 1/arcsinh(t+1), t-> 1/csch(t)+1, t-> tanh(1/t), t->csch
(1/t), t-> arccsch(1/t), t-> arctanh(1/t) ]:

base := t -> PDF(bf, t):

print(base(x)):

#begin latex file formatting
appendto(filename);
  printf("\\documentclass[12pt]{article} \n");
  printf("\\usepackage{amsfonts} \n");

```

```

printf("\begin{document} \n");
print(bfname);
printf("$$");
latex(bf[1]);
printf("$$");
writeto(terminal);

#begin loopint through transformations
for i from 1 to 22 do
#for i from 1 to 3 do
  print( "i is", i, " -----
-----
-----");

g := glist[i];
l := bf[2][1];
u := bf[2][2];
Temp := Transform(bf, [[unapply(g(x), x)], [l, u]]);

#terminal output
print( "l and u", l, u );
print("g(x)", g(x), "base", base(x), bfname);
print("f(x)", PDF(Temp, x));
print("F(x)", CDF(Temp, x));
if i <> 11 and i <> 14 and i <> 16 and i <> 17 and i <> 19 and
i <> 21 then
  print("IDF(x)", IDF(Temp));
  end if;
print("S(x)", SF(Temp, x));
if i <> 10 then
  print("h(x)", HF(Temp, x));
  if i <> 16 then
    print("mean and variance", Mean(Temp), Variance(Temp));
    assume(r > 0); mf := int(x^r*PDF(Temp, x), x = Temp[2][1] ...
Temp[2][2]);
    print("MF", mf);
    print("MGF", MGF(Temp));
    PlotDist(PDF(Temp), 0, 40);
    if i <> 4 and i <> 14 and i <> 17 then
      PlotDist(HF(Temp), 0, 40);
    end if;
    latex(PDF(Temp, x));
    #print("transforming with", [[x->g(x)], [0, infinity]]);
    #X2 := Transform(bf, [[x->g(x)], [0, infinity]]);
    #print("pdf of X2 = ", PDF(X2, x));
    #print("pdf of Temp = ", PDF(Temp, x));
  end if;
end if;
end if;

#latex output
appendto(filename);
printf("-----
----- \\\\\\");

printf("$$");
latex(glist[i]);
printf("$$");

```

```

printf("Probability Distribution Function \n$$ f(x) = ");
latex(PDF(Temp,x));
printf("$$");
printf("Cumulative Distribution Function \n $$F(x) = ");
latex(CDF(Temp,x));
printf("$$");
printf(" Inverse Cumulative Distribution Function \n ");
printf(" $$F^{-1} = ");
if i <> 11 and i <> 14 and i <> 16 and i <> 17 and i <> 19 and
i <> 21 then
  latex(IDF(Temp)[1]);
end if;
printf("$$");
printf("Survivor Function \n $$ S(x) = ");
latex(SF(Temp, x));
if i <> 10 then
  printf("$$ Hazard Function \n $$ h(x) = ");
  latex(HF(Temp,x));
  printf("$$");
  if i <> 16 then
    printf("Mean \n $$ \mu = ");
    latex(Mean(Temp));
    printf("$$ Variance \n $$ \sigma^2 = ");
    latex(Variance(Temp));
    printf("$$");
    printf("Moment Function \n $$ m(x) = ");
    latex(mf);
    printf("$$ Moment Generating Function \n $$");
    latex(MGF(Temp)[1]);
    printf("$$");
    #latex(MGF(Temp)[1]);
  end if;
end if;

writeto(terminal);

od;

#final latex output
appendto(filename);
printf("\end{document}\n");
writeto(terminal);

```

filename := "C:/LatexOutput/InvertedGamma.tex"

$$\frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}$$

"i is", 1,

" -----
-----"

$$g := t \rightarrow t^2$$

```

l := 0
u := infinity
Temp := 
$$\left[ \left[ y \sim \rightarrow \frac{1}{18} \frac{e^{-\frac{1}{3\sqrt{y}}}}{y^2} \right], [0, \infty], ["Continuous", "PDF"] \right]$$

"l and u", 0, infinity
"g(x)",  $x^2$ , "base",  $\frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}$ , "InvertedGammaRV(2,3)"
"f(x)",  $\frac{1}{18} \frac{e^{-\frac{1}{3\sqrt{x}}}}{x^2}$ 
"F(x)",  $\frac{1}{3} \frac{(1 + 3\sqrt{x}) e^{-\frac{1}{3\sqrt{x}}}}{\sqrt{x}}$ 
"IDF(x)", 
$$\left[ s \rightarrow \frac{1}{9 \left( \text{LambertW}(-s e^{-1}) + 1 \right)^2} \right], [0, 1], ["Continuous", "IDF"]$$

"S(x)",  $-\frac{1}{3} \frac{3 e^{-\frac{1}{3\sqrt{x}}} \sqrt{x} + e^{-\frac{1}{3\sqrt{x}}} - 3\sqrt{x}}{\sqrt{x}}$ 
"mean and variance", infinity, undefined
"MF",  $3^{-2r} \Gamma(2 - 2r)$ 
"MGF",  $-\frac{1}{18} \frac{t \text{MeijerG}\left(\left[\left[\frac{1}{2}, 0, -1\right], \left[\right]\right], \left[-\frac{1}{36} t\right]\right)}{\sqrt{\pi}}$ 
1/18\, , {\frac {1}{{x}^2}}\,{\rm e}^{-1/3}\, , {\frac {1}{\sqrt{x}}}\} \\
"i is", 2,
" -----
-----"
g := t →  $\sqrt{t}$ 
l := 0
u := infinity
Temp := 
$$\left[ \left[ y \sim \rightarrow \frac{2}{9} \frac{e^{-\frac{1}{3y^2}}}{y^5} \right], [0, \infty], ["Continuous", "PDF"] \right]$$


```

"l and u", 0, ∞
 $"g(x)", \sqrt{x}, "base", \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, "InvertedGammaRV(2,3)"$

$"f(x)", \frac{2}{9} \frac{e^{-\frac{1}{3x^2}}}{x^5}$

$"F(x)", \frac{1}{3} \frac{(3x^2 + 1) e^{-\frac{1}{3x^2}}}{x^2}$

ERROR(IDF): Could not find the appropriate inverse

ERROR(IDF): Could not find the appropriate inverse

$"IDF(x)", [[], [0, 1], ["Continuous", "IDF"]]$

$"S(x)", -\frac{1}{3} \frac{3e^{-\frac{1}{3x^2}} x^2 - 3x^2 + e^{-\frac{1}{3x^2}}}{x^2}$

$"h(x)", -\frac{2}{3} \frac{e^{-\frac{1}{3x^2}}}{x^3 \left(3e^{-\frac{1}{3x^2}} x^2 - 3x^2 + e^{-\frac{1}{3x^2}}\right)}$

$"\text{mean and variance}", \frac{1}{6} \sqrt{3} \sqrt{\pi}, \frac{1}{3} - \frac{1}{12} \pi$

$"MF", 3^{-\frac{1}{2}} \Gamma\left(-\frac{1}{2} r \sim + 2\right)$

$"MGF", \frac{\text{MeijerG}\left([[], []], \left[\left[2, \frac{1}{2}, 0\right], [] \right], \frac{1}{12} t^2\right)}{\sqrt{\pi}}$

$2/9 \sqrt{3} \sqrt{\pi} \left(\frac{1}{6} \sqrt{3} \sqrt{\pi} \left(\frac{1}{3} - \frac{1}{12} \pi \right) \right)$
 $"i \text{ is}", 3,$

$"-----"$
 $-----"$

$g := t \mapsto \frac{1}{t}$

$l := 0$

$u := \infty$

$Temp := \left[\left[y \sim \mapsto \frac{1}{9} y \sim e^{-\frac{1}{3} y \sim} \right], [0, \infty], ["Continuous", "PDF"] \right]$

"l and u", 0, ∞

$"g(x)", \frac{1}{x}, "base", \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, "InvertedGammaRV(2,3)"$

$$\text{"f(x)"}, \frac{1}{9} x e^{-\frac{1}{3} x}$$

$$\text{"F(x)"}, 1 - \frac{1}{3} x e^{-\frac{1}{3} x} - e^{-\frac{1}{3} x}$$

$$\text{"IDF(x)"}, [\ [s \rightarrow -3 \text{ LambertW}((s-1) e^{-1}) - 3], [0, 1], \text{"Continuous", "IDF"}]$$

$$\text{"S(x)"}, \frac{1}{3} e^{-\frac{1}{3} x} (x + 3)$$

$$\text{"h(x)"}, \frac{1}{3} \frac{x}{x + 3}$$

"mean and variance", 6, 18

$$\text{"MF"}, \frac{1}{9} \left(\frac{1}{3} \right)^{-2 - r} \Gamma(r) (r^2 + r)$$

$$\text{"MGF"}, \lim_{t \rightarrow \infty} \frac{1}{3} \frac{3 e^{\frac{1}{3} x(3t-1)} t x - x e^{\frac{1}{3} x(3t-1)} - 3 e^{\frac{1}{3} x(3t-1)}}{9 t^2 - 6 t + 1} + 3$$

$1/9 \times x \{ \text{rm } e \}^{\{-x/3\}}$

"i is", 4,

"-----"
-----"

$$g := t \rightarrow \arctan(t)$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \rightarrow \frac{1}{9} \frac{\cos(y) e^{-\frac{1}{3} \frac{\cos(y)}{\sin(y)}}}{\sin(y)^3} \right], \left[0, \frac{1}{2} \pi \right], \text{"Continuous", "PDF"} \right]$$

"l and u", 0, ∞

$$\text{"g(x)"}, \arctan(x), \text{"base"}, \frac{1}{9} \frac{e^{-\frac{1}{3} x}}{x^3}, \text{"InvertedGammaRV(2,3)"}$$

$$\text{"f(x)"}, \frac{1}{9} \frac{\cos(x) e^{-\frac{1}{3} \frac{\cos(x)}{\sin(x)}}}{\sin(x)^3}$$

$$\begin{aligned}
& \left(\frac{1}{6} \frac{\left(2 \cos\left(\frac{1}{2}x\right)^2 + 6 \cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right) - 1 \right) e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)}}{\sin\left(\frac{1}{2}x\right) \cos\left(\frac{1}{2}x\right)} \right. \\
& \left. - \frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)} \cos\left(\frac{1}{2}x\right)^2 + 6 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)}} \cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right) + \sin\left(\frac{1}{2}x\right) \right. \\
& \left. - \frac{1}{6} \frac{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right) \infty - 2 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)}} \cos\left(\frac{1}{2}x\right)^2 - 6 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)}} \cos\left(\frac{1}{2}x\right)}{\sin\left(\frac{1}{2}x\right) \cos\left(\frac{1}{2}x\right)} \right) \\
& \text{"IDF(x)", [[], [0, 1], ["Continuous", "IDF"]]}
\end{aligned}$$

$$\begin{aligned}
& \left(-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)} \cos\left(\frac{1}{2}x\right)^2 + 6 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)}} \cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right) \right. \\
& \left. - \frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)} \cos\left(\frac{1}{2}x\right)^2 + 6 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)}} \cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right) - 6 \cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right) \right. \\
& \left. - \frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)} \cos\left(\frac{1}{2}x\right)^2 - \cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right) \infty + 6 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2}x\right)^2 - 1}{\cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right)}} \cos\left(\frac{1}{2}x\right) \sin\left(\frac{1}{2}x\right) \right) \\
& \text{"S(x)", [[], [0, 1], ["Continuous", "S"]]}
\end{aligned}$$

$$\begin{aligned}
& \left. \begin{aligned}
& \frac{2}{3} \frac{\cos(x) e^{-\frac{1}{3} \frac{\cos(x)}{\sin(x)}} \cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)}{\sin(x)^3 \left(2 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2} x\right)^2 - 1}{\cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)}} \cos\left(\frac{1}{2} x\right)^2 + 6 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2} x\right)^2 - 1}{\cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)}} \cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)\right)} \\
& \frac{2}{3} \frac{\cos(x) e^{-\frac{1}{3} \frac{\cos(x)}{\sin(x)}} \sin\left(\frac{1}{2} x\right) \cos\left(\frac{1}{2} x\right)}{\sin(x)^3 \left(2 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2} x\right)^2 - 1}{\cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)}} \cos\left(\frac{1}{2} x\right)^2 + 6 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2} x\right)^2 - 1}{\cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)}} \cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)\right)} \\
& \frac{2}{3} \frac{\cos(x) e^{-\frac{1}{3} \frac{\cos(x)}{\sin(x)}} \cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)}{\sin(x)^3 \left(\cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right) \infty - 2 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2} x\right)^2 - 1}{\cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)}} \cos\left(\frac{1}{2} x\right)^2 - 6 e^{-\frac{1}{6} \frac{2 \cos\left(\frac{1}{2} x\right)^2 - 1}{\cos\left(\frac{1}{2} x\right) \sin\left(\frac{1}{2} x\right)}}\right)}
\end{aligned} \right) \\
& \text{"mean and variance", } \frac{1}{9} \int_0^{\frac{1}{2} \pi} \frac{x e^{-\frac{1}{3} \frac{\cos(x)}{\sin(x)}} \cos(x)}{\sin(x)^3} dx, \frac{1}{9} \int_0^{\frac{1}{2} \pi} \frac{x^2 e^{-\frac{1}{3} \frac{\cos(x)}{\sin(x)}} \cos(x)}{\sin(x)^3} dx \\
& - \frac{1}{81} \left(\int_0^{\frac{1}{2} \pi} \frac{x e^{-\frac{1}{3} \frac{\cos(x)}{\sin(x)}} \cos(x)}{\sin(x)^3} dx \right)^2 \\
& \text{"MF", } \int_0^{\frac{1}{2} \pi} \frac{\frac{1}{9} x'^{\sim} e^{-\frac{1}{3} \frac{\cos(x)}{\sin(x)}} \cos(x)}{\sin(x)^3} dx \\
& \text{"MGF", } \frac{1}{9} \int_0^{\frac{1}{2} \pi} \frac{e^{\frac{1}{3} \frac{3 t x \sin(x) - \cos(x)}{\sin(x)}} \cos(x)}{\sin(x)^3} dx
\end{aligned}$$

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random*

variable, $\frac{1}{2} \pi$

Resetting high to RV's maximum support value

```
1/9\, , {\frac {\cos \left( x \right) }{\sin \left( x \right) }}\,{\frac {\sin \left( x \right) }{{\rm e}^{\frac {1}{3} \left( x \right) ^{3}}}}\,{\frac {1}{{\rm e}^{\frac {1}{3} \left( x \right) ^{3}}}}\,{\frac {\cos \left( x \right) }{\sin \left( x \right) }}\,{\frac {1}{{\rm e}^{\frac {1}{3} \left( x \right) ^{3}}}}\}
```

"i is", 5,

"-----"
-----"

$$g := t \rightarrow e^t$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \sim \rightarrow \frac{1}{9} \frac{e^{-\frac{1}{3 \ln(y)}}}{\ln(y)^3 y} \right], [1, \infty], ["Continuous", "PDF"] \right]$$

"l and u", 0, ∞

$$"g(x)", e^x, "base", \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, "InvertedGammaRV(2,3)"$$

$$"f(x)", \frac{1}{9} \frac{e^{-\frac{1}{3 \ln(x)}}}{\ln(x)^3 x}$$

$$"F(x)", \frac{1}{3} \frac{(1 + 3 \ln(x)) e^{-\frac{1}{3 \ln(x)}}}{\ln(x)}$$

$$"IDF(x)", \left[\left[s \rightarrow e^{-\frac{1}{3 (\text{LambertW}(-s e^{-1}) + 1)}} \right], [0, 1], ["Continuous", "IDF"] \right]$$

$$"S(x)", -\frac{1}{3} \frac{3 e^{-\frac{1}{3 \ln(x)}} \ln(x) + e^{-\frac{1}{3 \ln(x)}} - 3 \ln(x)}{\ln(x)}$$

$$"h(x)", -\frac{1}{3} \frac{e^{-\frac{1}{3 \ln(x)}}}{\ln(x)^2 x \left(3 e^{-\frac{1}{3 \ln(x)}} \ln(x) + e^{-\frac{1}{3 \ln(x)}} - 3 \ln(x) \right)}$$

"mean and variance", ∞ , undefined

"MF", ∞

$$"MGF", \int_1^{\infty} \frac{1}{9} \frac{\frac{1}{3} \frac{3 t x \ln(x) - 1}{\ln(x)}}{\ln(x)^3 x} dx$$

WARNING(PlotDist): Low value provided by user, 0

is less than minimum support value of random variable

Resetting low to RV's minimum support value

*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable*

Resetting low to RV's minimum support value

$1/9 \cdot \frac{1}{\left(\ln \left(x \right) \right)^3} \cdot \left(-\frac{1}{3} \cdot \ln \left(x \right)^{-1} \right)$
 "i is", 6,

-----"

$$g := t \rightarrow \ln(t)$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \rightarrow \frac{1}{9} e^{-\frac{1}{3} e^{-y} - 2y} \right], [-\infty, \infty], ["Continuous", "PDF"] \right]$$

"l and u", 0, ∞

$$"g(x)", \ln(x), "base", \frac{1}{9} \frac{e^{-\frac{1}{3}x}}{x^3}, "InvertedGammaRV(2,3)"$$

$$"f(x)", \frac{1}{9} e^{-\frac{1}{3} e^{-x} - 2x}$$

$$"F(x)", \frac{1}{3} (3 e^x + 1) e^{-\frac{1}{3} (3 x e^x + 1) e^{-x}}$$

"IDF(x)", $\left[\left[s \rightarrow RootOf \left(3 e^{-Z} \ln(3) + 3 e^{-Z} \ln \left(\frac{s}{3 e^{-Z} + 1} \right) + 3 Z e^{-Z} + 1 \right) \right], [0, 1],$

["Continuous", "IDF"]

$$"S(x)", 1 - e^{-\frac{1}{3} e^{-x}} - \frac{1}{3} e^{-\frac{1}{3} e^{-x} - x}$$

$$"h(x)", -\frac{1}{3} \frac{e^{-\frac{1}{3} e^{-x} - 2x}}{-3 + 3 e^{-\frac{1}{3} e^{-x}} + e^{-\frac{1}{3} e^{-x} - x}}$$

"mean and variance", $\int_{-\infty}^{\infty} \frac{1}{9} x e^{-\frac{1}{3} e^{-x} - 2x} dx, \int_{-\infty}^{\infty} \frac{1}{9} x^2 e^{-\frac{1}{3} e^{-x} - 2x} dx$

$$-\left(\int_{-\infty}^{\infty} \frac{1}{9} x e^{-\frac{1}{3} e^{-x} - 2x} dx \right)^2$$

"MF",
$$\int_{-\infty}^{\infty} \frac{1}{9} x^{\sim} e^{-\frac{1}{3} e^{-x} - 2x} dx$$
 "MGF",
$$\int_{-\infty}^{\infty} \frac{1}{9} e^{tx - \frac{1}{3} e^{-x} - 2x} dx$$

$$1/9 \cdot \{ \{ \text{rm } e \}^{\wedge} \{-1/3 \cdot \{ \{ \text{rm } e \}^{\wedge} \{-x \} \} - 2 \}, x \}$$
 "i is", 7,

 " -----

$$g := t \rightarrow e^{-t}$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \sim \rightarrow -\frac{1}{9} \frac{e^{\frac{1}{3 \ln(y \sim)}}}{\ln(y \sim)^3 y \sim} \right], [0, 1], ["Continuous", "PDF"] \right]$$
 "l and u", 0, ∞

$$"g(x)", e^{-x}, "base", \frac{1}{9} \frac{e^{-\frac{1}{3} x}}{x^3}, "InvertedGammaRV(2,3)"$$

$$"f(x)", -\frac{1}{9} \frac{e^{\frac{1}{3 \ln(x)}}}{\ln(x)^3 x}$$

$$"F(x)", \begin{cases} -\frac{1}{3} \frac{3 e^{\frac{1}{3 \ln(x)}} \ln(x) - 3 \ln(x) - e^{\frac{1}{3 \ln(x)}}}{\ln(x)} & x \leq 1 \\ -\infty & 1 < x \end{cases}$$

$$"IDF(x)", \left[\left[s \rightarrow e^{\frac{1}{3 (\text{LambertW}((s-1) e^{-1}) + 1)}} \right], [0, 1], ["Continuous", "IDF"] \right]$$

$$"S(x)", \begin{cases} \frac{1}{3} \frac{e^{\frac{1}{3 \ln(x)}} (3 \ln(x) - 1)}{\ln(x)} & x \leq 1 \\ \infty & 1 < x \end{cases}$$

$$"h(x)", \begin{cases} -\frac{1}{3 \ln(x)^2 x (3 \ln(x) - 1)} & x \leq 1 \\ 0 & 1 < x \end{cases}$$
 "mean and variance",
$$\frac{2}{3} \sqrt{3} \text{BesselK}\left(1, \frac{2}{3} \sqrt{3}\right) + \frac{2}{3} \text{BesselK}\left(0, \frac{2}{3} \sqrt{3}\right), \frac{4}{3} \text{BesselK}\left(0, \frac{2}{3} \sqrt{3} \sqrt{2}\right) + \frac{2}{3} \sqrt{3} \sqrt{2} \text{BesselK}\left(1, \frac{2}{3} \sqrt{3} \sqrt{2}\right) - \frac{4}{3} \text{BesselK}\left(1, \frac{2}{3} \sqrt{3}\right)^2$$

$$\begin{aligned}
& -\frac{8}{9} \operatorname{BesselK}\left(1, \frac{2}{3} \sqrt{3}\right) \operatorname{BesselK}\left(0, \frac{2}{3} \sqrt{3}\right) \sqrt{3} - \frac{4}{9} \operatorname{BesselK}\left(0, \frac{2}{3} \sqrt{3}\right)^2 \\
& \text{"MF", } \frac{2}{3} r \sim \operatorname{BesselK}\left(0, \frac{2}{3} \sqrt{r} \sqrt{3}\right) + \frac{2}{3} \sqrt{r} \sqrt{3} \operatorname{BesselK}\left(1, \frac{2}{3} \sqrt{r} \sqrt{3}\right) \\
& \text{"MGF", } -\frac{1}{9} \int_0^1 \frac{e^{\frac{1}{3} \frac{3tx \ln(x) + 1}{\ln(x)}}}{\ln(x)^3 x} dx
\end{aligned}$$

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random variable, 1

Resetting high to RV's maximum support value

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random variable, 1

Resetting high to RV's maximum support value

$$\begin{aligned}
& -\frac{1}{9} \left(\frac{1}{\ln(x)} \right)^3 x^3 \\
& \left. \frac{d}{dx} \left(\frac{1}{\ln(x)} \right)^3 x^3 \right|_{x=1} = 0
\end{aligned}$$

"i is", 8,

"-----"

"-----"

$$g := t \rightarrow -\ln(t)$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \rightarrow \frac{1}{9} e^{2y - \frac{1}{3} e^y} \right], [-\infty, \infty], ["Continuous", "PDF"] \right]$$

"l and u", 0, ∞

$$\begin{aligned}
& "g(x)", -\ln(x), "base", \frac{1}{9} \frac{e^{-\frac{1}{3}x}}{x^3}, "InvertedGammaRV(2,3)" \\
& "f(x)", \frac{1}{9} e^{-\frac{1}{3}x + 2x}
\end{aligned}$$

$$\begin{aligned}
& "F(x)", 1 - e^{-\frac{1}{3}x} - \frac{1}{3} e^{x - \frac{1}{3}e^x}
\end{aligned}$$

$$\begin{aligned}
& "IDF(x)", \left[\left[s \rightarrow \operatorname{RootOf}\left(3 \operatorname{RootOf}(Z) - 3 \ln(3) - 3 \ln\left(1 - e^{-\frac{1}{3}e^Z} - s\right) - e^Z\right) \right], [0, 1], \right. \\
& \left. ["Continuous", "IDF"] \right]
\end{aligned}$$

$$"S(x)", e^{-\frac{1}{3}e^x} + \frac{1}{3} e^{x - \frac{1}{3}e^x}$$

$$\begin{aligned}
& \text{"h(x)"}, \frac{1}{3} \frac{e^{-\frac{1}{3}e^x + 2x}}{3e^{-\frac{1}{3}e^x} + e^x - \frac{1}{3}e^x} \\
& \text{"mean and variance"}, \int_{-\infty}^{\infty} \frac{1}{9} x e^{-\frac{1}{3}e^x + 2x} dx, \int_{-\infty}^{\infty} \frac{1}{9} x^2 e^{-\frac{1}{3}e^x + 2x} dx - \left(\int_{-\infty}^{\infty} \frac{1}{9} x e^{-\frac{1}{3}e^x + 2x} dx \right)^2
\end{aligned}$$

$$\text{"MF"}, \int_{-\infty}^{\infty} \frac{1}{9} x^{\sim} e^{-\frac{1}{3}e^x + 2x} dx$$

$$\text{"MGF"}, \int_{-\infty}^{\infty} \frac{1}{9} e^{tx - \frac{1}{3}e^x + 2x} dx$$

$$1/9 \cdot \{ \{ \text{\rm e} \}^{-1/3} \cdot \{ \{ \text{\rm e} \}^{\{ x \}} \} + 2 \cdot x \}$$

"i is", 9,

"-----"
-----"

$$g := t \rightarrow \ln(t + 1)$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \rightarrow \frac{1}{9} \frac{e^{\frac{1}{3} \frac{3y e^y - 3y - 1}{e^y - 1}}}{(e^y - 1)^3} \right], [0, \infty], ["Continuous", "PDF"] \right]$$

"l and u", 0, ∞

$$\text{"g(x)"}, \ln(x + 1), \text{"base"}, \frac{1}{9} \frac{e^{-\frac{1}{3}x}}{x^3}, \text{"InvertedGammaRV(2,3)"}$$

$$\text{"f(x)"}, \frac{1}{9} \frac{e^{\frac{1}{3} \frac{3x e^x - 3x - 1}{e^x - 1}}}{(e^x - 1)^3}$$

$$\text{"F(x)"}, \frac{1}{3} \frac{(3 e^x - 2) e^{-\frac{1}{3}(e^x - 1)}}{e^x - 1}$$

$$\text{"IDF(x)"}, \left[\left[s \rightarrow -\ln(3) + \ln \left(\frac{3 \text{LambertW}(-s e^{-1}) + 2}{\text{LambertW}(-s e^{-1}) + 1} \right) \right], [0, 1], ["Continuous", "IDF"] \right]$$

$$\text{"S(x)"}, -\frac{1}{3} \frac{3 e^{-\frac{1}{3}(e^x - 1)} + x - 3 e^x - 2 e^{-\frac{1}{3}(e^x - 1)} + 3}{e^x - 1}$$

$$\begin{aligned}
& "h(x)", \frac{1}{3} \frac{e^{\frac{1}{3} \frac{3xe^x - 3x - 1}{e^x - 1}}}{(e^x - 1)^2 \left(-3e^{\frac{1}{3} \frac{3xe^x - 3x - 1}{e^x - 1}} + 3e^x + 2e^{\frac{1}{3}(e^x - 1)} - 3 \right)} \\
& "mean and variance", \int_0^{\infty} \frac{1}{9} \frac{x e^{\frac{1}{3} \frac{3xe^x - 3x - 1}{e^x - 1}}}{(e^x - 1)^3} dx, \int_0^{\infty} \frac{1}{9} \frac{x^2 e^{\frac{1}{3} \frac{3xe^x - 3x - 1}{e^x - 1}}}{(e^x - 1)^3} dx \\
& - \left(\int_0^{\infty} \frac{1}{9} \frac{x e^{\frac{1}{3} \frac{3xe^x - 3x - 1}{e^x - 1}}}{(e^x - 1)^3} dx \right)^2 \\
& "MF", \int_0^{\infty} \frac{1}{9} \frac{x^{\sim} e^{\frac{1}{3} \frac{3xe^x - 3x - 1}{e^x - 1}}}{(e^x - 1)^3} dx \\
& "MGF", \int_0^{\infty} \frac{1}{9} \frac{e^{\frac{1}{3} \frac{3txe^x + 3xe^x - 3tx - 3x - 1}{e^x - 1}}}{(e^x - 1)^3} dx
\end{aligned}$$

$1/9 \cdot \frac{1}{(e^x - 1)^3} \cdot \frac{3txe^x + 3xe^x - 3tx - 3x - 1}{e^x - 1}$
 $\frac{3}{9} \cdot x \cdot \frac{3xe^x - 3x - 1}{e^x - 1} \cdot \frac{1}{(e^x - 1)^2}$

"i is", 10,

$\frac{1}{9} \frac{3txe^x + 3xe^x - 3tx - 3x - 1}{(e^x - 1)^3}$
 $\frac{1}{9} \frac{3txe^x + 3xe^x - 3tx - 3x - 1}{(e^x - 1)^3}$

$$\begin{aligned}
g &:= t \mapsto \frac{1}{\ln(t + 2)} \\
l &:= 0 \\
u &:= \infty \\
Temp &:= \left[\left[\frac{\frac{1}{3} \frac{-y^{\sim} + 3e^{y^{\sim}} - 6}{\left(e^{y^{\sim}} - 2 \right)^{y^{\sim}}}}{y^{\sim} \mapsto \frac{1}{9} \frac{e^{\frac{1}{3} \frac{-y^{\sim} + 3e^{y^{\sim}} - 6}{\left(e^{y^{\sim}} - 2 \right)^{y^{\sim}}}}{y^{\sim}^2}} \right], \left[0, \frac{1}{\ln(2)} \right], ["Continuous", "PDF"] \right] \\
&"l and u", 0, \infty
\end{aligned}$$

$$"g(x)", \frac{1}{\ln(x + 2)}, "base", \frac{1}{9} \frac{e^{-\frac{1}{3}x}}{x^3}, "InvertedGammaRV(2,3)"$$

$$\text{"f(x)"}, \frac{1}{9} \frac{e^{\frac{1}{3} \frac{-x+3e^x-6}{\left(e^x-2\right)_x}}}{\left(e^{\frac{1}{x}}-2\right)^3 x^2}$$

$$\text{"F(x)"}, \begin{cases} -\frac{1}{3} \frac{\frac{1}{3} \frac{-x+3e^x-6}{\left(e^x-2\right)_x} - \frac{1}{3 \left(e^x-2\right)}}{e^{\frac{1}{x}}-2} & x \leq \frac{1}{\ln(2)} \\ -\infty & \frac{1}{\ln(2)} < x \end{cases}$$

$$\text{"IDF(x)"}, \left[\left[s \rightarrow \frac{1}{-\ln(3) + \ln\left(\frac{6 \text{LambertW}\left((s-1) e^{-1}\right) + 5}{\text{LambertW}\left((s-1) e^{-1}\right) + 1}\right)} \right], [0, 1], \text{"Continuous"}, \text{"IDF"} \right]$$

$$\text{"S(x)"}, \begin{cases} \frac{1}{3} \frac{\frac{1}{3} \frac{-x+3e^x-6}{\left(e^x-2\right)_x} - 5e^{\frac{1}{x}} - \frac{1}{3 \left(e^x-2\right)}}{e^{\frac{1}{x}}-2} & x \leq \frac{1}{\ln(2)} \\ \infty & \frac{1}{\ln(2)} < x \end{cases}$$

"i is", 11,

" -----"
-----"

$$g := t \rightarrow \tanh(t)$$

$$l := 0$$

$$u := \infty$$

$$\text{Temp} := \left[\left[y \sim \rightarrow -\frac{1}{9} \frac{e^{-\frac{1}{3 \text{arctanh}(y \sim)}}}{\text{arctanh}(y \sim)^3 (y \sim^2 - 1)} \right], [0, 1], \text{"Continuous", "PDF"} \right]$$

"l and u", 0, ∞

$$\text{"g(x)"}, \tanh(x), \text{"base"}, \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, \text{"InvertedGammaRV(2,3)"}$$

$$\begin{aligned}
& "f(x)", -\frac{1}{9} \frac{e^{-\frac{1}{3 \operatorname{arctanh}(x)}}}{\operatorname{arctanh}(x)^3 (x^2 - 1)} \\
& "F(x)", -\frac{1}{9} \int_0^x \frac{e^{-\frac{1}{3 \operatorname{arctanh}(t)}}}{\operatorname{arctanh}(t)^3 (t^2 - 1)} dt \\
& "S(x)", 1 + \frac{1}{9} \int_0^x \frac{e^{-\frac{1}{3 \operatorname{arctanh}(t)}}}{\operatorname{arctanh}(t)^3 (t^2 - 1)} dt \\
& "h(x)", -\frac{e^{-\frac{1}{3 \operatorname{arctanh}(x)}}}{\operatorname{arctanh}(x)^3 (x^2 - 1) \left(9 + \int_0^x \frac{e^{-\frac{1}{3 \operatorname{arctanh}(t)}}}{\operatorname{arctanh}(t)^3 (t^2 - 1)} dt \right)} \\
& \text{"mean and variance", } -\frac{1}{9} \int_0^1 \frac{x e^{-\frac{1}{3 \operatorname{arctanh}(x)}}}{\operatorname{arctanh}(x)^3 (x^2 - 1)} dx, -\frac{1}{9} \int_0^1 \frac{x^2 e^{-\frac{1}{3 \operatorname{arctanh}(x)}}}{\operatorname{arctanh}(x)^3 (x^2 - 1)} dx \\
& -\frac{1}{81} \left(\int_0^1 \frac{x e^{-\frac{1}{3 \operatorname{arctanh}(x)}}}{\operatorname{arctanh}(x)^3 (x^2 - 1)} dx \right)^2 \\
& "MF", \int_0^1 \left(-\frac{1}{9} \frac{x^r e^{-\frac{1}{3 \operatorname{arctanh}(x)}}}{\operatorname{arctanh}(x)^3 (x^2 - 1)} \right) dx \\
& "MGF", -\frac{1}{9} \int_0^1 \frac{e^{\frac{1}{3} \frac{3 t x \operatorname{arctanh}(x) - 1}{\operatorname{arctanh}(x)}}}{\operatorname{arctanh}(x)^3 (x^2 - 1)} dx
\end{aligned}$$

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 1*

Resetting high to RV's maximum support value

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 1*

Resetting high to RV's maximum support value

-1/9\, , {\frac {1}{{\left(\operatorname{arctanh}\left(x\right) \right) }^3}}^
{3}}

```

\left( \left( x \right) ^{2}-1 \right) \left\{ \left\{ \left( \mathrm{e} \right) ^{-1/3}, \left( \arctanh \right. \right. \\ \left. \left. \left( x \right) \right) ^{-1} \right\} \right\} \\ "i is", 12,
"-----"
-----"
g := t → sinh(t)
l := 0
u := ∞
Temp := 
$$\left[ \left[ y \sim \rightarrow \frac{1}{9} \frac{e^{-\frac{1}{3 \operatorname{arcsinh}(y \sim)}}}{\operatorname{arcsinh}(y \sim)^3 \sqrt{y \sim^2 + 1}} \right], [0, \infty], ["Continuous", "PDF"] \right]$$

"l and u", 0, ∞
"g(x)", sinh(x), "base",  $\frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}$ , "InvertedGammaRV(2,3)"
"f(x)",  $\frac{1}{9} \frac{e^{-\frac{1}{3 \operatorname{arcsinh}(x)}}}{\operatorname{arcsinh}(x)^3 \sqrt{x^2 + 1}}$ 
"F(x)",  $\frac{1}{3} \frac{\left( e^{\frac{1}{\ln(-x + \sqrt{x^2 + 1})}} \right)^{1/3} (-1 + 3 \ln(-x + \sqrt{x^2 + 1}))}{\ln(-x + \sqrt{x^2 + 1})}$ 
ERROR(IDF): Could not find the appropriate inverse
ERROR(IDF): Could not find the appropriate inverse
ERROR(IDF): Could not find the appropriate inverse
"IDF(x)", [[], [0, 1], ["Continuous", "IDF"]]
"S(x)",  $-\frac{1}{3} \frac{1}{\ln(-x + \sqrt{x^2 + 1})} \left( 3 \left( e^{\frac{1}{\ln(-x + \sqrt{x^2 + 1})}} \right)^{1/3} \ln(-x + \sqrt{x^2 + 1}) - 3 \ln(-x + \sqrt{x^2 + 1}) \right)$ 
 $+ \sqrt{x^2 + 1} \right) - \left( e^{\frac{1}{\ln(-x + \sqrt{x^2 + 1})}} \right)^{1/3}
" h(x)",  $-\frac{1}{3} \left( e^{-\frac{1}{3 \operatorname{arcsinh}(x)}} \ln(-x + \sqrt{x^2 + 1}) \right) \right/ \\ \left( \operatorname{arcsinh}(x)^3 \sqrt{x^2 + 1} \left( 3 \left( e^{\frac{1}{\ln(-x + \sqrt{x^2 + 1})}} \right)^{1/3} \ln(-x + \sqrt{x^2 + 1}) - 3 \ln(-x + \sqrt{x^2 + 1}) \right) - \left( e^{\frac{1}{\ln(-x + \sqrt{x^2 + 1})}} \right)^{1/3} \right)$ 
"mean and variance", ∞, undefined$ 
```

"MF", $\int_0^\infty \frac{1}{9} \frac{e^{\frac{1}{3} \frac{3tx \operatorname{arcsinh}(x) - 1}{\operatorname{arcsinh}(x)}}}{\operatorname{arcsinh}(x)^3 \sqrt{x^2 + 1}} dx$
 "MGF", $\frac{1}{9} \frac{\sqrt{3} \operatorname{arcsinh}(x)^3}{\operatorname{arcsinh}(x)^3 \sqrt{x^2 + 1}}$
 $\frac{1}{9} \frac{e^{\frac{1}{3} \frac{3tx \operatorname{arcsinh}(x) - 1}{\operatorname{arcsinh}(x)}}}{\operatorname{arcsinh}(x)^3 \sqrt{x^2 + 1}}$
 "i is", 13,
 "-----"

$$g := t \rightarrow \operatorname{arcsinh}(t)$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \rightarrow \frac{1}{9} \frac{e^{-\frac{1}{3 \sinh(y)}} \cosh(y)}{\sinh(y)^3} \right], [0, \infty], ["Continuous", "PDF"] \right]$$

$$"l and u", 0, \infty$$

$$"g(x)", \operatorname{arcsinh}(x), "base", \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, "InvertedGammaRV(2,3)"$$

$$"f(x)", \frac{1}{9} \frac{e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3}$$

$$"F(x)", \frac{1}{3} \frac{(3 e^{2x} + 2 e^x - 3) e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1}}{e^{2x} - 1}$$

$$"IDF(x)", [[], [0, 1], ["Continuous", "IDF"]]$$

$$"S(x)", -\frac{1}{3} \frac{\frac{2}{3} \frac{e^x}{e^{2x} - 1} + 2x - 3 e^{2x} + 2 e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1} + x - 3 e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1} + 3}{e^{2x} - 1}$$

$$"h(x)",$$

$$\frac{1}{3} \frac{e^{-\frac{1}{3 \sinh(x)}} \cosh(x) (e^{2x} - 1)}{\sinh(x)^3 \left(3 e^{2x} + 3 e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1} - 3 e^{\frac{2}{3}} \frac{3x e^{2x} - e^x - 3x}{e^{2x} - 1} - 2 e^{\frac{1}{3}} \frac{3x e^{2x} - 2 e^x - 3x}{e^{2x} - 1} - 3 \right)}$$

$$"mean and variance", \int_0^\infty \frac{1}{9} \frac{x e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3} dx, \int_0^\infty \frac{1}{9} \frac{x^2 e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3} dx$$

$$\begin{aligned}
& - \left(\int_0^\infty \frac{1}{9} \frac{x e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3} dx \right)^2 \\
& \quad "MF", \int_0^\infty \frac{1}{9} \frac{x^r e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3} dx \\
& \quad "MGF", \int_0^\infty \frac{1}{9} \frac{e^{\frac{1}{3} \frac{3tx \sinh(x) - 1}{\sinh(x)}} \cosh(x)}{\sinh(x)^3} dx \\
1/9, \{ \frac{\cosh(x)}{\sinh(x)} \}^2 \\
& \quad \left(\frac{\cosh(x)}{\sinh(x)} \right)^3 \{ \frac{e^{-1/3}}{\sinh(x)} \}^2 \\
& "i" \text{ is } 14, \\
& \quad \text{-----} \\
& \quad \text{-----} \\
& \quad g := t \rightarrow \text{csch}(t + 1) \\
& \quad l := 0 \\
& \quad u := \infty \\
& \quad \text{Temp} := \left[\left[y \rightarrow \frac{1}{9} \frac{e^{-\frac{1}{3(-1 + \text{arccsch}(y))}}}{\sqrt{y^2 + 1} (-1 + \text{arccsch}(y))^3 |y|} \right], \left[0, -\frac{2}{-e + e^{-1}} \right], ["Continuous", \right. \\
& \quad \left. "PDF"] \right] \\
& \quad "l" \text{ and } "u", 0, \infty \\
& \quad "g(x)", \text{csch}(x + 1), "base", \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, "InvertedGammaRV(2,3)" \\
& \quad "f(x)", \frac{1}{9} \frac{e^{-\frac{1}{3(-1 + \text{arccsch}(x))}}}{\sqrt{x^2 + 1} (-1 + \text{arccsch}(x))^3 |x|} \\
& \quad "F(x)", \frac{1}{9} \int_0^x \frac{e^{-\frac{1}{3(-1 + \text{arccsch}(t))}}}{\sqrt{t^2 + 1} (-1 + \text{arccsch}(t))^3 |t|} dt
\end{aligned}$$

$$\begin{aligned}
& \text{"S(x)"}, 1 - \frac{1}{9} \int_0^x \frac{e^{-\frac{1}{3(-1 + \operatorname{arccsch}(t))}}}{\sqrt{t^2 + 1} (-1 + \operatorname{arccsch}(t))^3 |t|} dt \\
& \text{"h(x)"}, - \frac{e^{-\frac{1}{3(-1 + \operatorname{arccsch}(x))}}}{\sqrt{x^2 + 1} (-1 + \operatorname{arccsch}(x))^3 |x|} \left(-9 + \int_0^x \frac{e^{-\frac{1}{3(-1 + \operatorname{arccsch}(t))}}}{\sqrt{t^2 + 1} (-1 + \operatorname{arccsch}(t))^3 |t|} dt \right) \\
& \text{"mean and variance"}, \frac{1}{9} \int_0^{\frac{2e}{e^2 - 1}} \frac{e^{-\frac{1}{3(-1 + \operatorname{arccsch}(x))}}}{\sqrt{x^2 + 1} (-1 + \operatorname{arccsch}(x))^3} dx, \frac{1}{9} \left(\int_0^{\frac{2e}{e^2 - 1}} \frac{x e^{-\frac{1}{3(-1 + \operatorname{arccsch}(x))}}}{\sqrt{x^2 + 1} (-1 + \operatorname{arccsch}(x))^3} dx - \frac{1}{81} \right. \\
& \quad \left. \int_0^{\frac{2e}{e^2 - 1}} \frac{e^{-\frac{1}{3(-1 + \operatorname{arccsch}(x))}}}{\sqrt{x^2 + 1} (-1 + \operatorname{arccsch}(x))^3} dx \right)^2 \\
& \text{"MF"}, \int_0^{-\frac{2}{-e + e^{-1}}} \frac{1}{9} \frac{x^r e^{-\frac{1}{3(-1 + \operatorname{arccsch}(x))}}}{\sqrt{x^2 + 1} (-1 + \operatorname{arccsch}(x))^3 |x|} dx \\
& \text{"MGF"}, \frac{1}{9} \int_0^{\frac{2e}{e^2 - 1}} \frac{e^{\frac{1}{3} \frac{3tx\operatorname{arccsch}(x) - 3tx - 1}{-1 + \operatorname{arccsch}(x)}}}{\sqrt{x^2 + 1} (-1 + \operatorname{arccsch}(x))^3 x} dx
\end{aligned}$$

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random

$$\text{variable, } - \frac{2}{-e + e^{-1}}$$

Resetting high to RV's maximum support value

`1/9, {\frac {1}{\sqrt {{x}^2+1}} \left(-1+\operatorname{arccsch}\right) \left(x\right) }`

$$"S(x)", \begin{cases} -\frac{2}{3} \frac{\frac{1}{3} \frac{12x e^x - 6x e^{2x} - e^{2x} + 6x + 1}{-e^{2x} + 2e^x + 1} - 3 e^{\frac{1}{3} \frac{6x e^x - 3x e^{2x} - e^{2x} + 3x + 1}{-e^{2x} + 2e^x + 1}} - e^{-\frac{1}{3} \frac{e^{2x} - 1}{-e^{2x} + 2e^x + 1}}}{-e^{2x} + 2e^x + 1} & x \leq \ln(1 + \sqrt{1 + \frac{1}{x}}) \\ undefined & x > \ln(1 + \sqrt{1 + \frac{1}{x}}) \end{cases}$$

$$h(x) = \begin{cases} \frac{1}{6} \frac{\frac{1}{3} \frac{\sinh(x)}{\sinh(x) - 1} \cosh(x) \sinh(x) (-e^{2x} + 2e^x + 1)}{(\sinh(x) \cosh(x)^2 - 3 \cosh(x)^2 + 2 \sinh(x) + 2) \left(e^{\frac{1}{3} \frac{12xe^x - 6x^2e^x - e^{2x} + 6x + 1}{-e^{2x} + 2e^x + 1}} - 3e^{\frac{1}{3} \frac{6xe^x - 3x^2}{-e^{2x} + 2e^x + 1}} \right)} & \text{if } e^{\frac{1}{3} \frac{12xe^x - 6x^2e^x - e^{2x} + 6x + 1}{-e^{2x} + 2e^x + 1}} - 3e^{\frac{1}{3} \frac{6xe^x - 3x^2}{-e^{2x} + 2e^x + 1}} \neq 0 \\ \text{undefined} & \text{otherwise} \end{cases}$$

$$\text{"mean and variance", } -\frac{1}{18} \int_0^{\ln(1+\sqrt{2})} \frac{x e^{\frac{1}{3} \frac{\sinh(x)}{\sinh(x)-1}} \sinh(2x)}{\sinh(x) \cosh(x)^2 - 3 \cosh(x)^2 + 2 \sinh(x) + 2} dx,$$

$$-\frac{1}{18} \int_0^{\ln(1+\sqrt{2})} \frac{x^2 e^{\frac{1}{3}} \frac{\sinh(x)}{\sinh(x)-1} \sinh(2x)}{\sinh(x) \cosh(x)^2 - 3 \cosh(x)^2 + 2 \sinh(x) + 2} dx$$

$$-\frac{1}{324} \left(\int_0^{\ln(1+\sqrt{2})} \frac{x e^{\frac{1}{3} \frac{\sinh(x)}{\sinh(x)-1} \sinh(2x)}}{\sinh(x) \cosh(x)^2 - 3 \cosh(x)^2 + 2 \sinh(x) + 2} dx \right)^2$$

$$\text{"MF", } \int_0^{\ln(1+\sqrt{2})} \left(-\frac{1}{9} \frac{x^{\sim} e^{\frac{1}{3} \frac{\sinh(x)}{\sinh(x)-1}} \cosh(x) \sinh(x)}{\sinh(x) \cosh(x)^2 - 3 \cosh(x)^2 + 2 \sinh(x) + 2} \right) dx$$

$$\text{"MGF", } -\frac{1}{18} \int_0^{\ln(1+\sqrt{2})} \frac{e^{\frac{1}{3} \frac{3tx \sinh(x) - 3tx + \sinh(x)}{\sinh(x) - 1}} \sinh(2x)}{\sinh(x) \cosh(x)^2 - 3 \cosh(x)^2 + 2 \sinh(x) + 2} dx$$

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random

variable, $\ln(1 + \sqrt{2})$

Resetting high to RV's maximum support value

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random

variable, $\ln(1 + \sqrt{2})$

Resetting high to RV's maximum support value

```
-1/9\,{\frac {\cosh \left( x \right) \sinh \left( x \right) }{\sinh
```

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\left( x \right) \left( \cosh \left( x \right) \right)^2
-3 \left( \cosh \left( x \right) \right)^2+2 \left( \sinh \left( x \right) \right)^2+2 \left( \left( \rm e \right)^{1/3} \right)^2 \left( \frac{\sinh \left( x \right)}{\sinh \left( x-1 \right)} \right)^2

```

"i is", 16,

"-----"

$$g := t \mapsto \frac{1}{\tanh(t+1)}$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \mapsto \frac{1}{9} \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arctanh}\left(\frac{1}{y}\right) \right)}}}{\left(-1 + \operatorname{arctanh}\left(\frac{1}{y}\right) \right)^3 (y^2 - 1)} \right], \left[1, \frac{e + e^{-1}}{e - e^{-1}} \right], ["Continuous", "PDF"] \right]$$

"l and u", 0, ∞

$$"g(x)", \frac{1}{\tanh(x+1)}, "base", \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, "InvertedGammaRV(2,3)"$$

$$"f(x)", \frac{1}{9} \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arctanh}\left(\frac{1}{x}\right) \right)}}}{\left(-1 + \operatorname{arctanh}\left(\frac{1}{x}\right) \right)^3 (x^2 - 1)}$$

$$"F(x)", \frac{1}{9} \int_1^x \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arctanh}\left(\frac{1}{t}\right) \right)}}}{\left(-1 + \operatorname{arctanh}\left(\frac{1}{t}\right) \right)^3 (t^2 - 1)} dt$$

$$"S(x)", 1 - \frac{1}{9} \int_1^x \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arctanh}\left(\frac{1}{t}\right) \right)}}}{\left(-1 + \operatorname{arctanh}\left(\frac{1}{t}\right) \right)^3 (t^2 - 1)} dt$$

$$"h(x)" = \frac{e^{-\frac{1}{3\left(-1 + \operatorname{arctanh}\left(\frac{1}{x}\right)\right)}}}{\left(-1 + \operatorname{arctanh}\left(\frac{1}{x}\right)\right)^3 (x^2 - 1) \left(-9 + \int_1^x \frac{e^{-\frac{1}{3\left(-1 + \operatorname{arctanh}\left(\frac{1}{t}\right)\right)}}}{\left(-1 + \operatorname{arctanh}\left(\frac{1}{t}\right)\right)^3 (t^2 - 1)} dt\right)}$$

"i is", 17,

"-----"
-----"

$$g := t \mapsto \frac{1}{\sinh(t+1)}$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \rightsquigarrow \frac{1}{9} \frac{e^{-\frac{1}{3\left(-1 + \operatorname{arcsinh}\left(\frac{1}{y}\right)\right)}}}{\sqrt{y^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{y}\right)\right)^3 |y|} \right], \left[0, \frac{2}{e - e^{-1}} \right], ["Continuous", "PDF"] \right]$$

"l and u", 0, ∞

$$"g(x)" = \frac{1}{\sinh(x+1)}, "base" = \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, "InvertedGammaRV(2,3)"$$

$$"f(x)" = \frac{1}{9} \frac{e^{-\frac{1}{3\left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right)\right)}}}{\sqrt{x^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right)\right)^3 |x|}$$

$$"F(x)" = \frac{1}{9} \int_0^x \frac{e^{-\frac{1}{3\left(-1 + \operatorname{arcsinh}\left(\frac{1}{t}\right)\right)}}}{\sqrt{t^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{t}\right)\right)^3 |t|} dt$$

$$\text{"S(x)"}, 1 - \frac{1}{9} \int_0^x \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arcsinh}\left(\frac{1}{t}\right) \right)}}}{\sqrt{t^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{t}\right) \right)^3} |t| dt$$

"h(x)",

$$\text{"h(x)"}, - \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)}}}{\sqrt{x^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)^3 |x|} \left(-9 + \int_0^x \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arcsinh}\left(\frac{1}{t}\right) \right)}}}{\sqrt{t^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{t}\right) \right)^3} |t| dt \right)$$

$$\text{"mean and variance"}, \frac{1}{9} \int_0^{\frac{2e}{e^2 - 1}} \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)}}}{\sqrt{x^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)^3} dx, \frac{1}{9}$$

$$\int_0^{\frac{2e}{e^2 - 1}} \frac{x e^{-\frac{1}{3 \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)}}}{\sqrt{x^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)^3} dx$$

$$- \frac{1}{81} \left(\int_0^{\frac{2e}{e^2 - 1}} \frac{e^{-\frac{1}{3 \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)}}}{\sqrt{x^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)^3} dx \right)^2$$

$$\text{"MF"}, \int_0^{\frac{2}{e - e^{-1}}} \frac{\frac{1}{9} \frac{x^{r \sim} e^{-\frac{1}{3 \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)}}}{\sqrt{x^2 + 1} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right) \right)^3} |x|}{dx}$$

$$\text{"MGF", } \frac{1}{9} \int_0^{\frac{2e}{e^2-1}} \frac{\frac{1}{3} \frac{3tx \operatorname{arcsinh}\left(\frac{1}{x}\right) - 3tx - 1}{-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right)}}{\frac{e}{\sqrt{x^2+1}} \left(-1 + \operatorname{arcsinh}\left(\frac{1}{x}\right)\right)^3 x} dx$$

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random

$$\text{variable, } \frac{2}{e - e^{-1}}$$

Resetting high to RV's maximum support value

```
1/9, {\frac {1}{\sqrt {{x}^{2}+1}} \left( -1+\operatorname{arcsinh}{\left (x\right )} \right )^{3} \left( \operatorname{e}^{-1/3}, \left( -1+\operatorname{arcsinh}{\left (x\right )} \right ) \right )^{-1}}\\
"i is", 18,
```

$$g := t \mapsto \frac{1}{\operatorname{arcsinh}(t+1)}$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \mapsto \frac{1}{9} \frac{e^{-\frac{1}{3 \left(-1 + \sinh\left(\frac{1}{y}\right) \right)}} \cosh\left(\frac{1}{y}\right)}{y^2 \left(\cosh\left(\frac{1}{y}\right)^2 \sinh\left(\frac{1}{y}\right) - 3 \cosh\left(\frac{1}{y}\right)^2 + 2 \sinh\left(\frac{1}{y}\right) + 2 \right)} \right], \left[0, \frac{1}{\ln(1 + \sqrt{2})} \right], \left[\text{"Continuous", "PDF"} \right] \right]$$

"l and u", 0, ∞

$$\text{"g(x)", } \frac{1}{\operatorname{arcsinh}(x+1)}, \text{"base", } \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, \text{"InvertedGammaRV(2,3)"}$$

$$\text{"f(x)", } \frac{1}{9} \frac{e^{-\frac{1}{3 \left(-1 + \sinh\left(\frac{1}{x}\right) \right)}} \cosh\left(\frac{1}{x}\right)}{x^2 \left(\cosh\left(\frac{1}{x}\right)^2 \sinh\left(\frac{1}{x}\right) - 3 \cosh\left(\frac{1}{x}\right)^2 + 2 \sinh\left(\frac{1}{x}\right) + 2 \right)}$$

$$F(x) = \begin{cases} \frac{1}{3} \frac{\frac{1}{2} \frac{2}{-e^x x + 3e^x - 6e^x - 3}}{x \left(\frac{2}{e^x} - 2 \frac{1}{e^x} - 1 \right)} & -3 + 3e^x - 6e^{\frac{2}{x}} + 4e^{\frac{1}{x}} \\ \frac{1}{3} \frac{\frac{1}{2} \frac{2}{-2e^x x + 3e^x - 6e^x - 3}}{x \left(\frac{2}{e^x} - 2 \frac{1}{e^x} - 1 \right)} & + 3e^{\frac{2}{x}} - 2e^{\frac{1}{x}} - 1 \\ \text{undefined} & \end{cases}$$

"IDF(x)",

→ (3)

$$\left(\begin{array}{cc} \frac{2}{3} \frac{-3e^2 Z - Z + 6 Ze^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} & \frac{1}{3} \frac{-3e^2 Z - Z + 6 Ze^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \\ e^{2 RootOf(3 se^3 - 6 se^3)} & \end{array} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6}{-e^2 Z + 2e^Z + 1} - 3s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2e^Z + 1}$$

$$+ 6 \frac{1}{e^3} \frac{-3e^2 Z - Z + 6}{-e^2 Z + 2e^Z + 1} - 3 \frac{4}{e^3} \frac{e^{-Z}}{-e^2 Z + 2e^Z + 1} + 3 \frac{2}{e^3} \frac{e^{-Z}}{-e^2 Z + 2e^Z + 1} \Bigg)$$

- 2

$$e^{RootOf\left(\frac{2}{3} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{6} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) - 1 \Big) \Big)$$

$$\left. \begin{array}{c} \diagup \\ \Bigg\{ \\ 3 \end{array} \right.$$

$$e^{2 RootOf\left(\frac{2}{3} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{6} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$\ln \left(\text{RootOf} \left(3 s \right. \right. \\ \left. \left. \frac{2}{3} \left(\text{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right) \right) \right)$$

e

$$-6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$-2 RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-6 RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{\frac{1}{3} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}}{-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}} + 3 e^{\frac{2}{3}} \frac{\frac{2}{3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$\text{RootOf}\left(3 \text{se}^{\frac{2}{3}} \frac{-3 \text{e}^{\frac{-Z}{3}} \text{Z}+6 \text{e}^{\frac{-Z}{3}}+\text{e}^{\frac{-Z}{3}}+3 \text{Z}}{-\text{e}^{\frac{-Z}{3}}+2 \text{e}^{\frac{-Z}{3}}+1}, -6 \text{se}^{\frac{1}{3}} \frac{-3 \text{e}^{\frac{-Z}{3}} \text{Z}+6 \text{e}^{\frac{-Z}{3}}+2 \text{e}^{\frac{-Z}{3}}+3 \text{Z}}{-\text{e}^{\frac{-Z}{3}}+2 \text{e}^{\frac{-Z}{3}}+1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z^2 + 6 Ze^Z + e^Z + 3 Z}{-e^2 Z^2 + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z^2 + 6 Ze^Z + 2 e^Z + 3 Z}{-e^2 Z^2 + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 \mathfrak{e}^{\frac{1}{3}} \frac{\frac{1}{3} \frac{-3 \mathfrak{e}^2 Z - Z + 6}{-2 Z + 2 \mathfrak{e}^{-Z} + 1} \frac{Z \mathfrak{e}^{-Z} + 2 \mathfrak{e}^{-Z} + 3}{-2 Z + 2 \mathfrak{e}^{-Z} + 1} Z}{-3 \mathfrak{e}^{\frac{4}{3}} \frac{4}{-2 Z + 2 \mathfrak{e}^{-Z} + 1} \frac{\mathfrak{e}^{-Z}}{-2 Z + 2 \mathfrak{e}^{-Z} + 1} - 3 \mathfrak{e}^{\frac{2}{3}} \frac{2}{-2 Z + 2 \mathfrak{e}^{-Z} + 1} \frac{\mathfrak{e}^{-Z}}{-2 Z + 2 \mathfrak{e}^{-Z} + 1}} \Bigg)$$

$$-3 \operatorname{RootOf}\left(\frac{2}{3 s e^{\frac{3}{3}}}, \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}\right) - 6 s e^{\frac{3}{3}} \frac{1}{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6}{-e^2 Z + 2e^Z + 1} - 3s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{\frac{1}{3} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}}{-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}} \Bigg)$$

$$-e^{RootOf\left(3se^{\frac{2}{3}} \frac{-3e^{\frac{2}{3}}Z^3 + 6ze^{\frac{1}{3}}Z + e^{-\frac{1}{3}}Z + 3Z}{-e^{\frac{2}{3}}Z^2 + 2e^{-\frac{1}{3}}Z + 1}, -6se^{\frac{1}{3}} \frac{-3e^{\frac{2}{3}}Z^3 + 6ze^{\frac{1}{3}}Z + 2e^{-\frac{1}{3}}Z + 3Z}{-e^{\frac{2}{3}}Z^2 + 2e^{-\frac{1}{3}}Z + 1}\right)}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 \mathfrak{e}^{\frac{1}{3}} \frac{-3 \mathfrak{e}^2 Z - Z + 6 Z \mathfrak{e}^{-Z} + 2 \mathfrak{e}^{-Z} + 3 Z}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1} - 3 \mathfrak{e}^{\frac{4}{3}} \frac{\mathfrak{e}^{-Z}}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1} + 3 \mathfrak{e}^{\frac{2}{3}} \frac{\mathfrak{e}^{-Z}}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1} \Big) \Big) \Bigg)$$

$$\left(\frac{\frac{2}{3} \frac{-3e^2 Z - Z + 6}{-e^2 Z + 2e^Z + 1}}{e^{2 \operatorname{RootOf}\left(3s e^3\right)}} \right)_{-6s e^3}^{\frac{1}{3}} \left(\frac{\frac{-3e^2 Z - Z + 6}{-e^2 Z + 2e^Z + 1}}{e^{2 \operatorname{RootOf}\left(3s e^3\right)}} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z^{\frac{2}{3}} + 6 Z e^{\frac{2}{3}} + e^{\frac{2}{3}} + 3 Z}{-e^2 Z^{\frac{2}{3}} + 2 e^{\frac{2}{3}} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z^{\frac{2}{3}} + 6 Z e^{\frac{2}{3}} + 2 e^{\frac{2}{3}} + 3 Z}{-e^2 Z^{\frac{2}{3}} + 2 e^{\frac{2}{3}} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6}{-e^2 Z + 2e^Z + 1} - 3s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \left(\frac{2}{-e^2 Z + 2 e^Z + 1} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- 2$$

$$e^{RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}\right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \left(\frac{2}{-e^2 Z + 2 e^Z + 1} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \right) - 1 \right)$$

$$- 6 s$$

$$\frac{1}{3} \left(3 RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}\right)\right)$$

$$e$$

$$- \frac{1}{6s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{4\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{2}{3s\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{1}{6\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$\epsilon^2 RootOf \left(\frac{2}{3s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{6s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right.$$

$$- \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{1}{4\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3s\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{1}{6\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$- 6 \operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$\operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$-3 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) \Big) \Bigg)$$

$$\left(\text{erf} \left(\frac{\frac{2}{3} \frac{-3 e^2 Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}}{3 s e^3} \right) - \frac{1}{6 s e^3} \frac{\frac{-3 e^2 Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}}{3} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 \mathfrak{e}^{\frac{1}{3}} \frac{\frac{1}{3} \frac{-3 \mathfrak{e}^2 Z - Z + 6}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1}}{-3 \mathfrak{e}^{\frac{4}{3}} \frac{4}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1}} - 3 \mathfrak{e}^{\frac{2}{3}} \frac{2}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1} \Bigg)$$

- 2

$$\text{RootOf}\left(3 \text{se}^3 - \frac{-3 \text{e}^2 \text{Z} \text{se}^6 \text{e}^{-\text{Z}} + 6 \text{Z} \text{e}^{-\text{Z}} + \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1}, -6 \text{se}^3 - \frac{1}{3} \frac{-3 \text{e}^2 \text{Z} \text{se}^6 \text{e}^{-\text{Z}} + 6 \text{Z} \text{e}^{-\text{Z}} + 2 \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z - Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z - Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Big) - 1 \Big)$$

- 3

$$\frac{2}{3} \left(\text{RootOf} \left(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right) \right)$$

e

$$-6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$- 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Big)$$

$$-2 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1},-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-6 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1},-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$e^{RootOf\left(\frac{2}{3} \cdot \frac{-3 \cdot e^Z \cdot Z + 6 \cdot Z \cdot e^Z + e^Z + 3 \cdot Z}{-e^2 \cdot Z + 2 \cdot e^Z + 1}, -6 \cdot e^{\frac{1}{3}} \cdot \frac{-3 \cdot e^Z \cdot Z + 6 \cdot Z \cdot e^Z + 2 \cdot e^Z + 3 \cdot Z}{-e^2 \cdot Z + 2 \cdot e^Z + 1}\right)}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z^2 Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z^2 + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z^2 Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z^2 + 2 e^Z + 1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z - Z + 6}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$-3 \operatorname{RootOf}\left(\begin{array}{c} \frac{2}{3} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \\ 3 s e^{\frac{1}{3}} \end{array}\right) - 6 s e^{\frac{1}{3}} \frac{\frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}}{3}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4 \mathop{\mathrm{e}}\nolimits^{\frac{1}{3}} \frac{-3 \mathop{\mathrm{e}}\nolimits^2 \mathop{\mathrm{Z}}\nolimits \mathop{\mathrm{Z}}\nolimits + 6 \mathop{\mathrm{Z}}\nolimits \mathop{\mathrm{e}}\nolimits^{-\mathop{\mathrm{Z}}\nolimits} + 4 \mathop{\mathrm{e}}\nolimits^{-\mathop{\mathrm{Z}}\nolimits} + 3 \mathop{\mathrm{Z}}\nolimits}{-\mathop{\mathrm{e}}\nolimits^2 \mathop{\mathrm{Z}}\nolimits + 2 \mathop{\mathrm{e}}\nolimits^{-\mathop{\mathrm{Z}}\nolimits} + 1} - 3 s \mathop{\mathrm{e}}\nolimits^{\frac{2}{3}} \frac{\mathop{\mathrm{e}}\nolimits^{-\mathop{\mathrm{Z}}\nolimits}}{-\mathop{\mathrm{e}}\nolimits^2 \mathop{\mathrm{Z}}\nolimits + 2 \mathop{\mathrm{e}}\nolimits^{-\mathop{\mathrm{Z}}\nolimits} + 1}$$

$$+ 6 \mathbf{e}^{\frac{1}{3}} \frac{-3 \mathbf{e}^2 \underline{Z} \underline{Z} + 6 \underline{Z} \mathbf{e}^{-Z} + 2 \mathbf{e}^{-Z} + 3 \underline{Z}}{-\mathbf{e}^2 \underline{Z} + 2 \mathbf{e}^{-Z} + 1} - 3 \mathbf{e}^{\frac{4}{3}} \frac{\mathbf{e}^{-Z}}{-\mathbf{e}^2 \underline{Z} + 2 \mathbf{e}^{-Z} + 1} + 3 \mathbf{e}^{\frac{2}{3}} \frac{\mathbf{e}^{-Z}}{-\mathbf{e}^2 \underline{Z} + 2 \mathbf{e}^{-Z} + 1} \Bigg)$$

$$- e^{RootOf(3s\text{e}^{\frac{2}{3}} \left(\frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} \right) - 6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}}}$$

$$- 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}$$

$$- 4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 4 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} \Big) \Big) \Bigg)$$

$$e^{2RootOf(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}}}$$

$$- 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}$$

$$- 4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 4 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z} + 6 \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} \Big)$$

- 2

$$\text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2\text{Z}\text{Z}+6\text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3\text{Z}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1} - 6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2\text{Z}\text{Z}+6\text{Z}\text{e}^{-\text{Z}}+2\text{e}^{-\text{Z}}+3\text{Z}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1}\right)$$

$$- 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2\text{Z}\text{Z}+6\text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3\text{Z}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2\text{Z}\text{Z}+6\text{Z}\text{e}^{-\text{Z}}+2\text{e}^{-\text{Z}}+3\text{Z}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1}$$

$$- 4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2\text{Z}\text{Z}+6\text{Z}\text{e}^{-\text{Z}}+4\text{e}^{-\text{Z}}+3\text{Z}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2\text{Z}\text{Z}+6\text{Z}\text{e}^{-\text{Z}}+2\text{e}^{-\text{Z}}+3\text{Z}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2\text{Z}+2\text{e}^{-\text{Z}}+1} \Big) - 1 \Big)$$

$$+ 3\text{Z}^2$$

- 4

e

$$-\frac{2}{3}$$

$$\text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}, -6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}\right)$$

$$-3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}$$

$$-4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+4 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} \Big) \Big/$$

$$\left(\text{e}^2 \text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}, -6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}\right)\right.$$

$$-3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}$$

$$-4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+4 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}$$

$$+ 6 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 \text{Z} \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + 2 \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} - 3 \text{e}^{\frac{4}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} + 3 \text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} \Big)$$

- 2

$$\text{e}^{\text{RootOf}\left(3 s \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 \text{Z} \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} - 6 s \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 \text{Z} \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + 2 \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1}\right)}$$

$$- 3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 \text{Z} \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} + 3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 \text{Z} \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + 2 \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1}$$

$$- 4 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 \text{Z} \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + 4 \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} - 3 s \text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1}$$

$$+ 6 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 \text{Z} \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + 2 \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} - 3 \text{e}^{\frac{4}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} + 3 \text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1} \Big) - 1 \Big)$$

Z

- 3 s

e

$$-\frac{2}{3}$$

$$\text{e}^{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z Z+6 Z \text{e}^{-Z}+\text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}, -6 s \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\right)$$

$$-3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+\text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} +3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$-4 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+4 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} -3 s \text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$+6 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}-3 \text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}+3 \text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\Bigg)$$

$$\left(\text{e}^{2 RootOf}\left(3 s \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+\text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}, -6 s \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\right)\right.$$

$$-3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+\text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} +3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$-4 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+4 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}-3 s \text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$+ 6 e^{\frac{1}{3}} \left(\frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

- 2

$$e^{RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \left(\frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \right) - 1 \right)$$

+ 6

$$\frac{1}{3} \left(3 RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)\right)$$

e

$$- \frac{1}{6s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{4\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{2}{3s\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{1}{6\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$e^{2\text{RootOf}\left(3s\epsilon^3 \frac{2}{-e^2 Z + 2 e^{-Z} + 1} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{6s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{1}{4\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3s\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{1}{6\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$- 6 \operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$\operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$-3 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}, -6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}, -6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) \Big) \Bigg)$$

$$\left(\text{erf} \left(\frac{\frac{2}{3} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}}{3 s e^{\frac{3}{2}}} \right) - \frac{1}{6 s e^{\frac{3}{2}}} \right) \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-\frac{2}{3} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 \mathfrak{e}^{\frac{1}{3}} \frac{\frac{1}{3} \frac{-3 \mathfrak{e}^2 Z - Z + 6}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1}}{-3 \mathfrak{e}^{\frac{4}{3}} \frac{4}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1}} - 3 \mathfrak{e}^{\frac{2}{3}} \frac{2}{- \mathfrak{e}^2 Z + 2 \mathfrak{e}^{-Z} + 1} \Bigg)$$

- 2

$$\text{RootOf}\left(3 \text{se}^3 - \frac{-3 \text{e}^2 \text{Z} \text{se}^6 \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1}, -6 \text{se}^3 - \frac{1}{3} \frac{-3 \text{e}^2 \text{Z} \text{se}^6 \text{Z} + 6 \text{Z} \text{e}^{-\text{Z}} + 2 \text{e}^{-\text{Z}} + 3 \text{Z}}{-\text{e}^2 \text{Z} + 2 \text{e}^{-\text{Z}} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z - Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z - Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) - 1 \Big)$$

- 3

e

$-\frac{4}{3}$

$$e^{RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Bigg) \Bigg/$$

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, -6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}} \right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$- 4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Bigg)$$

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$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, -6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)_{-1} \Big)$$

$$+ 3$$

$$e$$

$$-\frac{2}{3}$$

$$e^{RootOf\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg) \Bigg/$$

$$\left(e^{2 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right.} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$e^{RootOf\left(3s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)}$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}\Big)\Big)\Big)\Big)$$

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$$e^{RootOf\left(3s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)}$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$\ln \left(\text{RootOf} \left(3 s^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right) \right)$$

e

$$- 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$e^{2 \text{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right)} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-6\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-3\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-e^{\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) \Big) \Bigg)$$

$$\left(e^{2 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right.} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$RootOf\left(3s e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+4 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}\Bigg)-1\Bigg)$$

$$-6 s$$

$$\frac{1}{3} \left(3 RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}\right.\right.$$

e

$$-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-3 e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}$$

$$+3 e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-4 e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+4 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}$$

$$- \frac{2}{3s e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + \frac{1}{6 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{4}{3 e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \Bigg)$$

$$2 RootOf \left(\frac{2}{3s e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{1}{6 s e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right.$$

$$- \frac{2}{3 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + \frac{2}{3 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- \frac{1}{4 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{2}{3 s e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ \frac{1}{6 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{4}{3 e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + \frac{2}{3 e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \Bigg)$$

$$- 6 RootOf \left(\frac{2}{3s e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{1}{6 s e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right.$$

$$- \frac{2}{3 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + \frac{2}{3 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$e^{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

$$- 3 e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

- 2

$$e^{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-3\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) \Big) \Big)$$

$$\left(e^{2\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \Big)$$

- 2

$$e^{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}\right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- 4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \Big) \Big)_{-1}$$

- 3

$$\frac{2}{3} \left(\text{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right) \right)$$

e

$$- \frac{1}{6 s e^{\frac{1}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3 e^{\frac{2}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3 e^{\frac{2}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{4 e^{\frac{1}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{2}{3 s e^{\frac{2}{3}}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{1}{6 e^{\frac{1}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3 e^{\frac{4}{3}}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3 e^{\frac{2}{3}}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

$$\text{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

$$- \frac{2}{3 e^{\frac{2}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3 e^{\frac{2}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$- 6 \operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right.$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$\operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right.$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$- 3 \operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right.$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$- e^{\operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Big) \Big) \Bigg)$$

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, \underline{Z})} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$- 4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Big)$$

- 2

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, \underline{Z})} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) - 1 \Big)$$

$$+ 3 Z^2$$

$$- 4$$

$$e$$

$$-\frac{2}{3}$$

$$\text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}, -6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\right)$$

$$-3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$-4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+4 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} \Bigg)$$

$$\text{e}^2 \text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}, -6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\right)$$

$$-3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$-4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+4 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} \Bigg)$$

- 2

$$\text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}\right)$$

$$- 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}$$

$$- 4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + 4 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}\Big)_{-1}\Big)$$

Z

- 3 s

e

$$-\frac{2}{3}$$

$$\text{e}^{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z Z+6 Z \text{e}^{-Z}+\text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}, -6 s \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\right)$$

$$-3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+\text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} +3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$-4 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+4 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} -3 s \text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$+6 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}-3 \text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}+3 \text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\Big)$$

$$\left(\text{e}^{2 RootOf}\left(3 s \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+\text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}, -6 s \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\right)\right.$$

$$-3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+\text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} +3 \text{e}^{\frac{2}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+2 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$-4 \text{e}^{\frac{1}{3}} \frac{-3 \text{e}^2 Z Z+6 Z \text{e}^{-Z}+4 \text{e}^{-Z}+3 Z}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}-3 s \text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$+ 6 e^{\frac{1}{3}} \left(\frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

- 2

$$e^{RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \left(\frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \right) - 1 \right)$$

+ 6

$$\frac{1}{3} \left(3 RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)\right)$$

e

$$- \frac{1}{6s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{4\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{2}{3s\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{1}{6\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$\epsilon^2 RootOf \left(\frac{2}{3s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{6s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right.$$

$$- \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{1}{4\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3s\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{1}{6\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$- 6 \operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$\operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$-3 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}, -6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}, -6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$\left(e^{RootOf\left(3 \cdot s \cdot e^{\frac{2}{3}} - \frac{-3 \cdot e^2 \cdot Z - Z + 6 \cdot Z \cdot e^{-Z} + e^{-Z} + 3 \cdot Z}{-e^2 \cdot Z + 2 \cdot e^{-Z} + 1} \right)} - 6 \cdot s \cdot e^{\frac{1}{3}} - \frac{-3 \cdot e^2 \cdot Z - Z + 6 \cdot Z \cdot e^{-Z} + 2 \cdot e^{-Z} + 3 \cdot Z}{-e^2 \cdot Z + 2 \cdot e^{-Z} + 1} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

- 2

$$\text{RootOf}\left(3 \text{se}^3 \frac{2 \frac{-3 \text{e}^2 \text{Z} \text{Z}+6 \text{Z} \text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}}-6 \text{se}^3 \frac{1 \frac{-3 \text{e}^2 \text{Z} \text{Z}+6 \text{Z} \text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z - Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z - Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) - 1 \Big)$$

- 3

e

$-\frac{4}{3}$

$$e^{RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Bigg) \Bigg/$$

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, \underline{Z})} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$- 4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Bigg)$$

- 2

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, \underline{Z})} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)_{-1} \Big)$$

+ 3

e

$-\frac{2}{3}$

$$e^{RootOf\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg) \Bigg/$$

$$\left(e^{2 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right.} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$e^{RootOf\left(3s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+e^Z+3 Z}{-e^2 Z+2 e^Z+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}\right)}$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+e^Z+3 Z}{-e^2 Z+2 e^Z+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+4 e^Z+3 Z}{-e^2 Z+2 e^Z+1}-3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}-3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}+3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}\Big)\Big)\Big)\Big)$$

+ 2

$$e^{RootOf\left(3s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+e^Z+3 Z}{-e^2 Z+2 e^Z+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}\right)}$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+e^Z+3 Z}{-e^2 Z+2 e^Z+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+4 e^Z+3 Z}{-e^2 Z+2 e^Z+1}-3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^{2 Z} + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^{2 Z} + 2 e^{-Z} + 1} \Big)$$

$$- 3 \ln \left(\text{RootOf} \left(3 s^{\frac{2}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1} \right) \right)$$

e

$$- 6 s e^{\frac{1}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1} - 3 e^{\frac{2}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1}$$

$$+ 3 e^{\frac{2}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1} - 4 e^{\frac{1}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1}$$

$$- 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^{2 Z} + 2 e^{-Z} + 1} + 6 e^{\frac{1}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^{2 Z} + 2 e^{-Z} + 1}$$

$$+ 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^{2 Z} + 2 e^{-Z} + 1} \Big)$$

$$e^{2 \text{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1} \right)} - 6 s e^{\frac{1}{3}} \frac{-3 e^{2 Z} Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^{2 Z} + 2 e^{-Z} + 1}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-6\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-3\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-e^{\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) \Big) \Bigg)$$

$$\left(e^{2 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right.} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$RootOf\left(3s e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+4 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}\Bigg)-1\Bigg)$$

$$-6 s$$

$$\frac{1}{3} \left(3 RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}\right)\right)$$

e

$$-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-3 e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}$$

$$+3 e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+2 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}-4 e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z}+6 \underline{Z} e^{-Z}+4 e^{-Z}+3 \underline{Z}}{-e^2 \underline{Z}+2 e^{-Z}+1}$$

$$- \frac{2}{3s e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + \frac{1}{6 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{4}{3 e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ 3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \Bigg)$$

$$2 RootOf \left(\frac{2}{3s e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{1}{6 s e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- \frac{2}{3 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + \frac{2}{3 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$- \frac{1}{4 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 4 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{2}{3 s e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1}$$

$$+ \frac{1}{6 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{4}{3 e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} + \frac{2}{3 e^3} \frac{e^Z}{-e^2 Z + 2 e^Z + 1} \Bigg)$$

$$- 6 RootOf \left(\frac{2}{3s e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} - \frac{1}{6 s e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} \right)$$

$$- \frac{2}{3 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + \frac{2}{3 e^3} \frac{-3 e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$e^{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

- 2

$$e^{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$-3\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) \Big) \Big)$$

$$\left(e^{2\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

- 2

$$e^{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) \Big)_{-1}$$

- 3

$$\frac{2}{3} \left(\text{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right) \right)$$

e

$$- \frac{1}{6 s e^{\frac{1}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3 e^{\frac{2}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3 e^{\frac{2}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{4 e^{\frac{1}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{2}{3 s e^{\frac{2}{3}}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{1}{6 e^{\frac{1}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3 e^{\frac{4}{3}}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3 e^{\frac{2}{3}}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

$$\text{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right) - \frac{1}{6 s e^{\frac{1}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{2}{3 e^{\frac{2}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3 e^{\frac{2}{3}}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$- 6 \operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right.$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$\operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right.$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$- 3 \operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right.$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)$$

$$- e^{\operatorname{RootOf} \left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} \right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Big) \Big) \Bigg)$$

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, \underline{Z})} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$- 4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Big)$$

- 2

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, \underline{Z})} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) - 1 \Big)$$

$$+ 3 Z^2$$

$$- 4$$

$$e$$

$$-\frac{2}{3}$$

$$\text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}, -6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\right)$$

$$-3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$-4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+4 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} \Bigg)$$

$$\text{e}^2 \text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}, -6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}\right)$$

$$-3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$-4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+4 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z \text{e}^{-Z}+6 \text{e}^{-Z}+2 \text{e}^{-Z}+3 \text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z+2 \text{e}^{-Z}+1} \Bigg)$$

- 2

$$\text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}\right)$$

$$- 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}$$

$$- 4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + 4 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 Z Z + 6 Z \text{e}^{-Z} + 2 \text{e}^{-Z} + 3 Z}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-Z}}{-\text{e}^2 Z + 2 \text{e}^{-Z} + 1}\Big)_{-1}\Big)$$

Z

- 3 s

e

$$-\frac{2}{3}$$

$$\text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}, -6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}\right)$$

$$-3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}$$

$$-4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+4 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}$$

$$+ 6\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} - 3\text{e}^{\frac{4}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} + 3\text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} \Big) \Big/$$

$$\left(\text{e}^2 \text{RootOf}\left(3s\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}, -6s\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}\right)\right.$$

$$-3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+\text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} + 3\text{e}^{\frac{2}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+2 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}$$

$$-4\text{e}^{\frac{1}{3}} \frac{-3\text{e}^2 \text{Z} \text{Z}+6 \text{Z}\text{e}^{-\text{Z}}+4 \text{e}^{-\text{Z}}+3 \text{Z}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1} - 3s\text{e}^{\frac{2}{3}} \frac{\text{e}^{-\text{Z}}}{-\text{e}^2 \text{Z}+2 \text{e}^{-\text{Z}}+1}$$

$$+ 6 e^{\frac{1}{3}} \left(\frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \right)$$

- 2

$$e^{RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- 4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \left(\frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \right) - 1 \right)$$

+ 6

$$\frac{1}{3} \left(3 RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)\right)$$

e

$$- \frac{1}{6s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{4\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{2}{3s\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{1}{6\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{2}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$e^{2\text{RootOf}\left(3s\epsilon^3 \frac{2}{-e^2 Z + 2 e^{-Z} + 1} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{1}{6s\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$- \frac{1}{4\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{2}{3s\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ \frac{1}{6\epsilon^3} \frac{-3\epsilon^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - \frac{4}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + \frac{2}{3\epsilon^3} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

$$- 6 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+e^Z+3 Z}{-e^2 Z+2 e^Z+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+e^Z+3 Z}{-e^2 Z+2 e^Z+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+4 e^Z+3 Z}{-e^2 Z+2 e^Z+1}-3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}-3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}+3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}\right)$$

$$\operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+e^Z+3 Z}{-e^2 Z+2 e^Z+1}-6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+e^Z+3 Z}{-e^2 Z+2 e^Z+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+4 e^Z+3 Z}{-e^2 Z+2 e^Z+1}-3 s e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^Z+2 e^Z+3 Z}{-e^2 Z+2 e^Z+1}-3 e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}+3 e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z+2 e^Z+1}\right)$$

$$-3 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}, -6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}, -6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}\right)$$

$$-3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}+3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+2 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}$$

$$-4 e^{\frac{1}{3}} \frac{-3 e^2 Z Z+6 Z e^{-Z}+4 e^{-Z}+3 Z}{-e^2 Z+2 e^{-Z}+1}-3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z+2 e^{-Z}+1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^Z + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) \Big) \Bigg)$$

$$\left(\text{erf} \left(\frac{\frac{2}{3} \frac{-3 e^2 Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}}{3 s e^3} \right) - \frac{1}{6 s e^3} \frac{\frac{-3 e^2 Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}}{3} \right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z - Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Bigg)$$

- 2

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z - Z + 6 Z e^Z + e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z - Z + 6 Z e^Z + 2 e^Z + 3 Z}{-e^2 Z + 2 e^Z + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6 e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3 e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big) - 1 \Big)$$

- 3

e

$-\frac{4}{3}$

$$e^{RootOf\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)}$$

$$- 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3 e^{\frac{2}{3}} \frac{-3 e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Bigg) \Bigg/$$

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, -6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}} \right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$- 4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Bigg)$$

- 2

$$\left(e^{2 \operatorname{RootOf}(3s e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, -6s e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}} \right.$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 4 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 Z + 2 e^{-Z} + 1} \Big)_{-1} \Big)$$

$$+ 3$$

$$e$$

$$-\frac{2}{3}$$

$$\text{RootOf}\left(3s e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} - 6s e^{\frac{1}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}\right)$$

$$-3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z Z + 6 Z e^{-Z} + 2 e^{-Z} + 3 Z}{-e^2 Z + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Big) \Big/$$

$$\left(e^{2 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, Z\right)} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 4 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3s e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} - 3e^{\frac{4}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{e^{-Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \Big)$$

- 2

$$\left(e^{2 \operatorname{RootOf}\left(3 s e^{\frac{2}{3}} \frac{-3 e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}, Z\right)} - 6 s e^{\frac{1}{3}} \frac{-3 e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} \right.$$

$$- 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1} + 3e^{\frac{2}{3}} \frac{-3e^2 Z \underline{Z} + 6 \underline{Z} e^{-Z} + 2 e^{-Z} + 3 \underline{Z}}{-e^2 \underline{Z} + 2 e^{-Z} + 1}$$

$$-4e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6 Ze^Z + 4e^Z + 3 Z}{-e^2 Z + 2e^Z + 1} - 3se^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2e^Z + 1}$$

$$+ 6e^{\frac{1}{3}} \frac{-3e^2 Z - Z + 6 Ze^Z + 2e^Z + 3 Z}{-e^2 Z + 2e^Z + 1} - 3e^{\frac{4}{3}} \frac{e^Z}{-e^2 Z + 2e^Z + 1} + 3e^{\frac{2}{3}} \frac{e^Z}{-e^2 Z + 2e^Z + 1} \Big) \Big) \Big) \Big)$$

$$\Bigg], [0, 1], ["Continuous", "IDF"] \Bigg]$$

$$"S(x)" : \begin{cases} \frac{2}{3} \frac{\frac{1}{2} e^x x + 3 e^x \frac{2}{2} - 6 e^x \frac{1}{1} - 3}{x \left(e^x - 2 e^x - 1 \right)} - 4 e^{\frac{1}{3}} \frac{\frac{1}{2} e^x x + 3 e^x \frac{2}{2} - 6 e^x \frac{1}{1} - 3}{x \left(e^x - 2 e^x - 1 \right)} - 3 e^{\frac{2}{3}} \frac{\frac{1}{2} e^x}{e^x - 2 e^x - 1} & x \leq \frac{1}{\ln(1 + \sqrt{2})} \\ undefined & \text{otherwise} \end{cases}$$

$$"h(x)" : \begin{cases} -\frac{1}{3} \frac{e^{-\frac{1}{3} \left(-1 + \sinh \left(\frac{1}{x} \right) \right)} \cosh \left(\frac{1}{x} \right) \left(\frac{2}{2} e^x - 2 e^x \frac{1}{1} - 3 \right)}{x^2 \left(\cosh \left(\frac{1}{x} \right)^2 \sinh \left(\frac{1}{x} \right) - 3 \cosh \left(\frac{1}{x} \right)^2 + 2 \sinh \left(\frac{1}{x} \right) + 2 \right)} & x \leq \frac{1}{\ln(1 + \sqrt{2})} \\ undefined & \text{otherwise} \end{cases}$$

$$"mean and variance" : \frac{1}{9}$$

$$\int_0^{\frac{1}{\ln(1 + \sqrt{2})}} \frac{e^{-\frac{1}{3} \left(-1 + \sinh \left(\frac{1}{x} \right) \right)} \cosh \left(\frac{1}{x} \right)}{x \left(\cosh \left(\frac{1}{x} \right)^2 \sinh \left(\frac{1}{x} \right) - 3 \cosh \left(\frac{1}{x} \right)^2 + 2 \sinh \left(\frac{1}{x} \right) + 2 \right)} dx, \frac{1}{9}$$

$$\begin{aligned}
& \int_0^{\frac{1}{\ln(1+\sqrt{2})}} \frac{e^{-\frac{1}{3\left(-1+\sinh\left(\frac{1}{x}\right)\right)}} \cosh\left(\frac{1}{x}\right)}{\cosh\left(\frac{1}{x}\right)^2 \sinh\left(\frac{1}{x}\right) - 3 \cosh\left(\frac{1}{x}\right)^2 + 2 \sinh\left(\frac{1}{x}\right) + 2} dx \\
& - \frac{1}{81} \left[\int_0^{\frac{1}{\ln(1+\sqrt{2})}} \frac{e^{-\frac{1}{3\left(-1+\sinh\left(\frac{1}{x}\right)\right)}} \cosh\left(\frac{1}{x}\right)}{x \left(\cosh\left(\frac{1}{x}\right)^2 \sinh\left(\frac{1}{x}\right) - 3 \cosh\left(\frac{1}{x}\right)^2 + 2 \sinh\left(\frac{1}{x}\right) + 2 \right)} dx \right]^2 \\
& \text{"MF", } \int_0^{\frac{1}{\ln(1+\sqrt{2})}} \frac{\frac{1}{9} x^{r \sim} e^{-\frac{1}{3\left(-1+\sinh\left(\frac{1}{x}\right)\right)}} \cosh\left(\frac{1}{x}\right)}{x^2 \left(\cosh\left(\frac{1}{x}\right)^2 \sinh\left(\frac{1}{x}\right) - 3 \cosh\left(\frac{1}{x}\right)^2 + 2 \sinh\left(\frac{1}{x}\right) + 2 \right)} dx \\
& \text{"MGF", } \frac{1}{9} \int_0^{\frac{1}{\ln(1+\sqrt{2})}} \frac{\frac{1}{3} \frac{3tx \sinh\left(\frac{1}{x}\right) - 3tx - 1}{-1 + \sinh\left(\frac{1}{x}\right)} \cosh\left(\frac{1}{x}\right)}{x^2 \left(\cosh\left(\frac{1}{x}\right)^2 \sinh\left(\frac{1}{x}\right) - 3 \cosh\left(\frac{1}{x}\right)^2 + 2 \sinh\left(\frac{1}{x}\right) + 2 \right)} dx
\end{aligned}$$

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random*

$$\text{variable, } \frac{1}{\ln(1+\sqrt{2})}$$

Resetting high to RV's maximum support value

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random*

$$\text{variable, } \frac{1}{\ln(1+\sqrt{2})}$$

Resetting high to RV's maximum support value

```
1/9, {\frac {\cosh \left( {x}^{-1} \right) }{{x}^2 \left( \cosh \left( {x}^{-1} \right) \right) ^2}\sinh \left( {x}^{-1} \right) }
```

```

\right) \ -3\backslash, \left( \cosh \left( x^{-1} \right) \right) \ ^{2} \\
+2\backslash, \\
\sinh \left( x^{-1} \right) \ +2 \right) \ }{\rm e}^{-1/3\backslash, \left( -1+ \\
\sinh \left( x^{-1} \right) \right) \ ^{-1}\backslash\backslash} \\
"i is", 19,
"
-----"
-----"

g := t → 1 / csch(t) + 1
l := 0
u := ∞

Temp := 
$$\left[ \left[ y \rightarrow \frac{1}{9} \frac{e^{-\frac{1}{3 \operatorname{arccsch}\left(\frac{1}{y-1}\right)}}}{\sqrt{y^2 - 2y + 2} \operatorname{arccsch}\left(\frac{1}{y-1}\right)^3}}, [1, \infty], ["Continuous", "PDF"] \right], "l and u", 0, \infty \right]$$

"l and u", 0, ∞

"g(x)", 1 / csch(x) + 1, "base", 1 / 9 * e^{-3x} / x^3, "InvertedGammaRV(2,3)"

"f(x)", 1 / 9 * e^{-1 / 3 * arccsch((1 / (x - 1)))} / sqrt(x^2 - 2x + 2) * arccsch((1 / (x - 1)))^3

"F(x)", 1 / 9 * integral from 1 to x of e^{-1 / 3 * arccsch((1 / (t - 1)))} / sqrt(t^2 - 2t + 2) * arccsch((1 / (t - 1)))^3 dt

"S(x)", 1 - 1 / 9 * integral from 1 to x of e^{-1 / 3 * arccsch((1 / (t - 1)))} / sqrt(t^2 - 2t + 2) * arccsch((1 / (t - 1)))^3 dt

```

$$\begin{aligned}
 "h(x)", - & \frac{1}{e^{3 \operatorname{arccsch}\left(\frac{1}{x-1}\right)}} \\
 & \sqrt{x^2-2 x+2} \operatorname{arccsch}\left(\frac{1}{x-1}\right)^3 \left(-9 + \int_1^x \frac{e^{-\frac{1}{3 \operatorname{arccsch}\left(\frac{1}{t-1}\right)}}}{\sqrt{t^2-2 t+2} \operatorname{arccsch}\left(\frac{1}{t-1}\right)^3} dt \right)
 \end{aligned}$$

"mean and variance", ∞ , *undefined*

$$\begin{aligned}
 "MF", \infty & \\
 "MGF", & \int_1^{\infty} \frac{\frac{1}{9} \frac{3 t x \operatorname{arccsch}\left(\frac{1}{x-1}\right)-1}{\operatorname{arccsch}\left(\frac{1}{x-1}\right)}}{\sqrt{x^2-2 x+2} \operatorname{arccsch}\left(\frac{1}{x-1}\right)^3} dx
 \end{aligned}$$

*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable*

1

Resetting low to RV's minimum support value

*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable*

1

Resetting low to RV's minimum support value

```

1/9, {\frac {1}{\sqrt {x^2-2 \, x+2}} \left( {\rm arccsch} \left( \frac {1}{x-1} \right)^{-1} \right)^3 {{\rm e}^{-1/3}}, \\
{\rm arccsch} \left( \left( x-1 \right)^{-1} \right)^{-1} \right)^3}

```

"i is", 20,

" -----"
-----"

$$g := t \rightarrow \tanh\left(\frac{1}{t}\right)$$

$$l := 0$$

$$u := \infty$$

$$\begin{aligned}
 \text{Temp} := & \left[\left[y \rightarrow -\frac{1}{9} \frac{\operatorname{arctanh}(y)}{\left(\frac{y+1}{\sqrt{-y^2+1}}\right)^{1/3} (y^2-1)} \right], [0, 1], ["\text{Continuous}", "PDF"] \right]
 \end{aligned}$$

"l and u", 0, ∞

"g(x)", $\tanh\left(\frac{1}{x}\right)$, "base", $\frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}$, "InvertedGammaRV(2,3)"

"f(x)", $-\frac{1}{9} \frac{\operatorname{arctanh}(x)}{\left(\frac{x+1}{\sqrt{-x^2+1}}\right)^{1/3} (x^2-1)}$

"F(x)",

$-\frac{1}{3} \frac{1}{x+1} \left(\sqrt{-x^2+1} \left(-\frac{\sqrt{-x^2+1}}{x-1} \right)^{2/3} \operatorname{arctanh}(x) + 3 \sqrt{-x^2+1} \left(-\frac{\sqrt{-x^2+1}}{x-1} \right)^{2/3} - 3x - 3 \right)$

"IDF(x)", $\left[\left[s \rightarrow \left(\operatorname{RootOf} \left(\operatorname{arctanh} \left(\frac{Z^6-1}{(Z^2+1)(Z^4-Z^2+1)} \right) + 3s_Z - 3_Z + 3 \right)^6 - 1 \right) \right] \right] \left/ \left(\left(\operatorname{RootOf} \left(\operatorname{arctanh} \left(\frac{Z^6-1}{(Z^2+1)(Z^4-Z^2+1)} \right) + 3s_Z - 3_Z + 3 \right)^2 + 1 \right) \left(\operatorname{RootOf} \left(\operatorname{arctanh} \left(\frac{Z^6-1}{(Z^2+1)(Z^4-Z^2+1)} \right) + 3s_Z - 3_Z + 3 \right)^4 - \operatorname{RootOf} \left(\operatorname{arctanh} \left(\frac{Z^6-1}{(Z^2+1)(Z^4-Z^2+1)} \right) + 3s_Z - 3_Z + 3 \right)^2 + 1 \right) \right) \right], [0, 1], ["Continuous", "IDF"] \right]$

"S(x)", $\frac{1}{3} \frac{\sqrt{-x^2+1} \left(-\frac{\sqrt{-x^2+1}}{x-1} \right)^{2/3} (\operatorname{arctanh}(x) + 3)}{x+1}$

"h(x)", $-\frac{1}{3} \frac{\operatorname{arctanh}(x)}{(\operatorname{arctanh}(x) + 3)(x^2-1)}$

"mean and variance", $\frac{1}{9} \int_0^1 \frac{x \operatorname{arctanh}(x)}{(x+1)^{1/3} (-x^2+1)^{5/6}} dx, \frac{1}{9} \int_0^1 \frac{x^2 \operatorname{arctanh}(x)}{(x+1)^{1/3} (-x^2+1)^{5/6}} dx$

$-\frac{1}{81} \left(\int_0^1 \frac{x \operatorname{arctanh}(x)}{(x+1)^{1/3} (-x^2+1)^{5/6}} dx \right)^2$

"MF", $\int_0^1 \left(-\frac{1}{9} \frac{x^{\sim} \operatorname{arctanh}(x)}{\left(\frac{x+1}{\sqrt{-x^2+1}} \right)^{1/3} (x^2-1)} \right) dx$

$$\text{"MGF", } \frac{1}{9} \int_0^1 \frac{e^{tx} \operatorname{arctanh}(x)}{(x+1)^{1/3} (-x^2+1)^{5/6}} dx$$

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random variable, 1

Resetting high to RV's maximum support value

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random variable, 1

Resetting high to RV's maximum support value

```
-1/9\, , {\frac { {\rm arctanh} \left( x \right) {x}^{2}-1}{{\frac {1}{\sqrt {3}}}{\frac {x+1}{\sqrt {-{x}^{2}+1}}}}}} } \\
"i is", 21,
```

```
"-----"
-----"
```

$$g := t \rightarrow \operatorname{csch} \left(\frac{1}{t} \right)$$

$$l := 0$$

$$u := \infty$$

$$\text{Temp} := \left[\left[y \rightarrow \frac{1}{9} \frac{\operatorname{arccsch}(y)}{\left(\frac{\operatorname{signum}(y) \sqrt{y^2 + 1} + 1}{y} \right)^{1/3} \sqrt{y^2 + 1} |y|} \right], [0, \infty], \right.$$

```
["Continuous", "PDF"]]
```

"l and u", 0, ∞

$$\text{"g(x)", } \operatorname{csch} \left(\frac{1}{x} \right), \text{"base", } \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, \text{"InvertedGammaRV(2,3)"}$$

$$\text{"f(x)", } \frac{1}{9} \frac{\operatorname{arccsch}(x)}{\left(\frac{\operatorname{signum}(x) \sqrt{x^2 + 1} + 1}{x} \right)^{1/3} \sqrt{x^2 + 1} |x|}$$

$$\text{"F(x)", } \frac{1}{9} \int_0^x \frac{\operatorname{arccsch}(t)}{\left(\frac{\operatorname{signum}(t) \sqrt{t^2 + 1} + 1}{t} \right)^{1/3} \sqrt{t^2 + 1} |t|} dt$$

"S(x)", $1 - \frac{1}{9} \int_0^x \frac{\operatorname{arccsch}(t)}{\left(\frac{\operatorname{signum}(t) \sqrt{t^2 + 1} + 1}{t} \right)^{1/3} \sqrt{t^2 + 1} |t|} dt$
 "h(x)", $- (\operatorname{arccsch}(x)) \left(\left(\frac{\operatorname{signum}(x) \sqrt{x^2 + 1} + 1}{x} \right)^{1/3} \sqrt{x^2 + 1} |x| \right) - 9 + \int_0^x \frac{\operatorname{arccsch}(t)}{\left(\frac{\operatorname{signum}(t) \sqrt{t^2 + 1} + 1}{t} \right)^{1/3} \sqrt{t^2 + 1} |t|} dt \right)$
 "mean and variance", $\int_0^\infty \frac{1}{9} \frac{\operatorname{arccsch}(x) x^{1/3}}{(\sqrt{x^2 + 1} + 1)^{1/3} \sqrt{x^2 + 1}} dx, \infty - \left(\int_0^\infty \frac{1}{9} \frac{\operatorname{arccsch}(x) x^{1/3}}{(\sqrt{x^2 + 1} + 1)^{1/3} \sqrt{x^2 + 1}} dx \right)^2$
 "MF", $\int_0^\infty \frac{1}{9} \frac{x^{r \sim} \operatorname{arccsch}(x)}{\left(\frac{\operatorname{signum}(x) \sqrt{x^2 + 1} + 1}{x} \right)^{1/3} \sqrt{x^2 + 1} |x|} dx$
 "MGF", $\int_0^\infty \frac{1}{9} \frac{e^{tx} \operatorname{arccsch}(x)}{(\sqrt{x^2 + 1} + 1)^{1/3} x^{2/3} \sqrt{x^2 + 1}} dx$

$$1/9 \cdot \frac{\operatorname{arccsch}(x)}{\sqrt{x^2 + 1}} \left(\frac{1}{\sqrt{x^2 + 1 + 1}} \right)^3$$

 "i is", 22,
 " _____"

$$g := t \rightarrow \operatorname{arccsch} \left(\frac{1}{t} \right)$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \sim \rightarrow \frac{1}{9} \frac{e^{-\frac{1}{3 \sinh(y)}} \cosh(y)}{\sinh(y)^3} \right], [0, \infty], ["Continuous", "PDF"] \right]$$

"l and u", 0, ∞

$$"g(x)", \operatorname{arccsch} \left(\frac{1}{x} \right), "base", \frac{1}{9} \frac{e^{-\frac{1}{3x}}}{x^3}, "InvertedGammaRV(2,3)"$$

$$"f(x)", \frac{1}{9} \frac{e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3}$$

$$"F(x)", \frac{1}{3} \frac{(3 e^{2x} + 2 e^x - 3) e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1}}{e^{2x} - 1}$$

$$"IDF(x)", [[], [0, 1], ["Continuous", "IDF"]]$$

$$"S(x)", -\frac{1}{3} \frac{3 e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1} + 2x + 2 e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1} + x - 3 e^{2x} - 3 e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1} + 3}{e^{2x} - 1}$$

"h(x)",

$$\frac{1}{3} \frac{e^{-\frac{1}{3 \sinh(x)}} \cosh(x) (e^{2x} - 1)}{\sinh(x)^3 \left(3 e^{2x} + 3 e^{-\frac{2}{3}} \frac{e^x}{e^{2x} - 1} - 3 e^{\frac{2}{3}} \frac{3 x e^{2x} - e^x - 3 x}{e^{2x} - 1} - 2 e^{\frac{1}{3}} \frac{3 x e^{2x} - 2 e^x - 3 x}{e^{2x} - 1} - 3 \right)}$$

$$"mean and variance", \int_0^\infty \frac{1}{9} \frac{x e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3} dx, \int_0^\infty \frac{1}{9} \frac{x^2 e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3} dx$$

$$- \left(\int_0^\infty \frac{1}{9} \frac{x e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3} dx \right)^2$$

$$"MF", \int_0^\infty \frac{1}{9} \frac{x^r e^{-\frac{1}{3 \sinh(x)}} \cosh(x)}{\sinh(x)^3} dx$$

$$"MGF", \int_0^\infty \frac{1}{9} \frac{e^{\frac{1}{3} \frac{3 t x \sinh(x) - 1}{\sinh(x)}} \cosh(x)}{\sinh(x)^3} dx$$

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1/9, {\frac {\cosh \left( x \right) }{\sinh \left( x \right) }}^3\{{\rm e}^{-1/3}, \left( \sinh \left( x \right) \right) ^{-1}\}}}
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