Sensitivity indexes of the test function with a free coefficient (c) as exponent

Test function

```
f1[W_, X_, Z_] := a * Z * X + b * W * X^(c)
```

W,X,Z: U[1.5, 2.5]

P:

In[2]:=
```
l = 1.5;
h = 2.5;
p = 1 / (h - l);
```

Computation of f for f1:

In[5]:=
```
f0 = Simplify[p^3 * Integrate[f1[W, X, Z], {W, l, h}, {X, l, h}, {Z, l, h}]]
```

Out[5]=
$$4.\, a + \frac{\left(-3.\times 1.5^{c} + 5.\times 2.5^{c}\right)\, b}{1. + c}$$

In[6]:=
```
fw = Simplify[p^2 * Integrate[f1[W, X, Z], {X, l, h}, {Z, l, h}] - f0]
```

Out[6]=
$$\frac{b\left(3.\times 1.5^{c} - 5.\times 2.5^{c} + \left(-1.5\times 1.5^{c} + 2.5^{1+c}\right)\, W\right)}{1. + c}$$

In[7]:=
```
fx = Simplify[p^2 * Integrate[f1[W, X, Z], {W, l, h}, {Z, l, h}] - f0]
```

Out[7]=
$$-4.\, a + \frac{\left(3.\times 1.5^{c} - 5.\times 2.5^{c}\right)\, b}{1. + c} + 2.\, a\, X + 2.\, b\, X^{c}$$

In[8]:=
```
fz = Simplify[p^2 * Integrate[f1[W, X, Z], {W, l, h}, {X, l, h}] - f0]
```

Out[8]=
$$\frac{a\left(-4. + 2.\, Z + c\left(-4. + 2.\, Z\right)\right)}{1. + c}$$

In[9]:=
```
fwx = Simplify[ p * Integrate[f1[W, X, Z], {Z, l, h}] - f0 - fw - fx]
```

Out[9]=
$$\frac{1}{1. + c}\, b \left(-3. \times 1.5^c + 5. \times 2.5^c + \left(-2. - 2.\, c\right) X^c + W \left(1.5^{1+c} - 2.5 \times 2.5^c + \left(1. + 1.\, c\right) X^c\right)\right)$$

In[10]:=
```
fwz = Simplify[ p * Integrate[f1[W, X, Z], {X, l, h}] - f0 - fw - fz]
```

Out[10]=
$$0.$$

In[11]:=
```
fxz = Simplify[ p * Integrate[f1[W, X, Z], {W, l, h}] - f0 - fx - fz]
```

Out[11]=
$$\frac{0. + a \left(4. - 2.\, X - 2.\, Z + 1.\, X Z + c \left(4. - 2.\, X - 2.\, Z + 1.\, X Z\right)\right)}{1. + c}$$

Computation of Vt, Vw, Vx, Vz...

In[13]:=
```
vt = Simplify[p^3 * Integrate[(f1[W, X, Z] - f0)^2, {W, l, h}, {X, l, h}, {Z, l, h}]]
```

Out[13]=
$$\begin{aligned}
&\Big(a\, b \left(15. \times 1.5^c - 15. \times 2.5^c + \left(78. \times 1.5^c - 70. \times 2.5^c\right) c + \left(150. \times 1.5^c - 110. \times 2.5^c\right) c^2 + \right.\\
&\quad \left(132. \times 1.5^c - 60. \times 2.5^c\right) c^3 + \left(51. \times 1.5^c + 5. \times 2.5^c\right) c^4 + \left(6. \times 1.5^c + 10. \times 2.5^c\right) c^5\Big) + \\
&\quad a^2 \left(0.673611 + 4.37847\, c + 11.4514\, c^2 + 15.4931\, c^3 + 11.4514\, c^4 + 4.37847\, c^5 + 0.673611\, c^6\right) + \\
&\quad b^2 \left(30. \times 3.75^c - 15.125\, e^{0.81093\, c} - 14.7917\, e^{1.83258\, c} + \right.\\
&\qquad c^2 \left(210. \times 3.75^c - 112.\, e^{0.81093\, c} - 93.3333\, e^{1.83258\, c}\right) + \\
&\qquad c \left(135. \times 3.75^c - 68.0625\, e^{0.81093\, c} - 66.5625\, e^{1.83258\, c}\right) + \\
&\qquad c^3 \left(135. \times 3.75^c - 83.375\, e^{0.81093\, c} - 41.0417\, e^{1.83258\, c}\right) + \\
&\qquad c^5 \left(-3.0625\, e^{0.81093\, c} + 5.10417\, e^{1.83258\, c}\right) + \\
&\qquad \left.c^4 \left(30. \times 3.75^c - 27.375\, e^{0.81093\, c} + 5.625\, e^{1.83258\, c}\right)\right)\Big) \Big/ \left((1. + c)^4 \left(2. + c\right) \left(0.5 + 1.\, c\right)\right)
\end{aligned}$$

In[16]:=
```
vw = Simplify[p * Integrate[(fw)^2, {W, l, h}]]
```

Out[16]=
$$\begin{aligned}
&\Big(1. \left(-9. \left(1. \times 1.5^c - 0.75 \times 1.5^c + 1.25 \times 2.5^c - 1.66667 \times 2.5^c\right)^3 + \right.\\
&\quad \left.9. \left(1. \times 1.5^c - 1.25 \times 1.5^c + 2.08333 \times 2.5^c - 1.66667 \times 2.5^c\right)^3\right) \\
&\quad b^2\Big) \Big/ \left(\left(-1.5 \times 1.5^c + 2.5^{1+c}\right) \left(1. + c\right)^2\right)
\end{aligned}$$

In[17]:=
```
vx = Simplify[p * Integrate[(fx)^2, {X, 1, h}]]
```

Out[17]=
$$\left(a\,b\left(-6.03961\times10^{-14}\times1.5^c+15.\times1.5^c-15.\times2.5^c+1.04213\times10^{-13}\times2.5^c+\left(-2.55795\times10^{-13}\times1.5^c+63.\times1.5^c-55.\times2.5^c+4.92643\times10^{-13}\times2.5^c\right)c+\left(-3.69482\times10^{-13}\times1.5^c+87.\times1.5^c-55.\times2.5^c+7.95808\times10^{-13}\times2.5^c\right)c^2+\left(-2.55795\times10^{-13}\times1.5^c+45.\times1.5^c-5.\times2.5^c+4.92643\times10^{-13}\times2.5^c\right)c^3+\left(-6.03961\times10^{-14}\times1.5^c+6.\times1.5^c+10.\times2.5^c+1.04213\times10^{-13}\times2.5^c\right)c^4\right)+a^2\left(0.333333+1.83333\,c+3.83333\,c^2+3.83333\,c^3+1.83333\,c^4+0.333333\,c^5\right)+b^2\left(-18.\times2.25^c+30.\times3.75^c-30.\times3.75^c+30.\times3.75^c-50.\times6.25^c+9.\,e^{0.81093\,c}-6.\,e^{0.81093\,c}+10.\,e^{1.83258\,c}+25.\,e^{1.83258\,c}+c^4\left(-3.\,e^{0.81093\,c}+5.\,e^{1.83258\,c}\right)+c^3\left(-18.\times2.25^c+30.\times3.75^c-30.\times3.75^c+30.\times3.75^c-50.\times6.25^c+9.\,e^{0.81093\,c}-15.\,e^{0.81093\,c}+25.\,e^{1.83258\,c}+25.\,e^{1.83258\,c}\right)+c\left(-63.\times2.25^c+105.\times3.75^c-105.\times3.75^c+105.\times3.75^c-175.\times6.25^c+31.5\,e^{0.81093\,c}-21.\,e^{0.81093\,c}+35.\,e^{1.83258\,c}+87.5\,e^{1.83258\,c}\right)+c^2\left(-63.\times2.25^c+105.\times3.75^c-105.\times3.75^c+105.\times3.75^c-175.\times6.25^c+31.5\,e^{0.81093\,c}-27.\,e^{0.81093\,c}+45.\,e^{1.83258\,c}+87.5\,e^{1.83258\,c}\right)\right)\Big/\left((1.+c)^3\,(2.+c)\,(0.5+1.\,c)\right)$$

In[18]:=
```
vz = Simplify[p * Integrate[(fz)^2, {Z, 1, h}]]
```

Out[18]=
$$0.333333\,a^2$$

In[19]:=
```
vwx = Simplify[p^2 * Integrate[(fwx)^2, {W, 1, h}, {X, 1, h}]]
```

Out[19]=
$$-\left(\left(18.375\,b^2\left(0.5\times2.25^c-0.833333\times3.75^c+1.64966\times3.75^c-0.833333\times3.75^c+1.38889\times6.25^c-0.241497\,e^{0.81093\,c}-0.25\,e^{0.81093\,c}-0.694444\,e^{1.83258\,c}-0.685941\,e^{1.83258\,c}+c\left(1.\times2.25^c-1.66667\times3.75^c+3.29932\times3.75^c-1.66667\times3.75^c+2.77778\times6.25^c-0.482993\,e^{0.81093\,c}-0.5\,e^{0.81093\,c}-1.38889\,e^{1.83258\,c}-1.37188\,e^{1.83258\,c}\right)+c^2\left(0.00340136\,e^{0.81093\,c}-0.00566893\,e^{1.83258\,c}\right)\right)\Big/\left((1.+c)^2\,(0.5+1.\,c)\right)\right)$$

In[20]:=
```
vwz = Simplify[p^2 * Integrate[(fwz)^2, {W, 1, h}, {Z, 1, h}]]
```

Out[20]=
$$0.$$

In[21]:=
```
vxz = Simplify[p^2 * Integrate[(fxz)^2, {X, 1, h}, {Z, 1, h}]]
```

Out[21]=
$$\frac{0.00694444\,a^2\,(1.+1.\,c)^3}{(1.+c)^3}$$

Computation of Sw, Sx, Sz...

In[29]:=
```
sw = vw / vt
```

Out[29]=
$$\Big(1.\Big(-9.\ \big(1.\times 1.5^{c}-0.75\times 1.5^{c}+1.25\times 2.5^{c}-1.66667\times 2.5^{c}\big)^{3}+9.\ \big(1.\times 1.5^{c}-1.25\times 1.5^{c}+2.08333\times 2.5^{c}-1.66667\times 2.5^{c}\big)^{3}\Big)\ b^{2}\ (1.+c)^{2}\ (2.+c)\ (0.5+1.\,c)\Big)\Big/\Big(\big(-1.5\times 1.5^{c}+2.5^{1+c}\big)\ \big(a\,b\ \big(15.\times 1.5^{c}-15.\times 2.5^{c}+\big(78.\times 1.5^{c}-70.\times 2.5^{c}\big)\,c+\big(150.\times 1.5^{c}-110.\times 2.5^{c}\big)\,c^{2}+\big(132.\times 1.5^{c}-60.\times 2.5^{c}\big)\,c^{3}+\big(51.\times 1.5^{c}+5.\times 2.5^{c}\big)\,c^{4}+\big(6.\times 1.5^{c}+10.\times 2.5^{c}\big)\,c^{5}\big)+a^{2}\ \big(0.673611+4.37847\,c+11.4514\,c^{2}+15.4931\,c^{3}+11.4514\,c^{4}+4.37847\,c^{5}+0.673611\,c^{6}\big)+b^{2}\ \big(30.\times 3.75^{c}-15.125\ e^{0.81093\,c}-14.7917\ e^{1.83258\,c}+c^{2}\ \big(210.\times 3.75^{c}-112.\ e^{0.81093\,c}-93.3333\ e^{1.83258\,c}\big)+c\ \big(135.\times 3.75^{c}-68.0625\ e^{0.81093\,c}-66.5625\ e^{1.83258\,c}\big)+c^{3}\ \big(135.\times 3.75^{c}-83.375\ e^{0.81093\,c}-41.0417\ e^{1.83258\,c}\big)+c^{5}\ \big(-3.0625\ e^{0.81093\,c}+5.10417\ e^{1.83258\,c}\big)+c^{4}\ \big(30.\times 3.75^{c}-27.375\ e^{0.81093\,c}+5.625\ e^{1.83258\,c}\big)\big)\big)\big)$$

In[30]:=
```
sx = vx / vt
```

Out[30]=
$$\big((1.+c)\ \big(a\,b\ \big(-6.03961\times 10^{-14}\times 1.5^{c}+15.\times 1.5^{c}-15.\times 2.5^{c}+1.04213\times 10^{-13}\times 2.5^{c}+\big(-2.55795\times 10^{-13}\times 1.5^{c}+63.\times 1.5^{c}-55.\times 2.5^{c}+4.92643\times 10^{-13}\times 2.5^{c}\big)\,c+\big(-3.69482\times 10^{-13}\times 1.5^{c}+87.\times 1.5^{c}-55.\times 2.5^{c}+7.95808\times 10^{-13}\times 2.5^{c}\big)\,c^{2}+\big(-2.55795\times 10^{-13}\times 1.5^{c}+45.\times 1.5^{c}-5.\times 2.5^{c}+4.92643\times 10^{-13}\times 2.5^{c}\big)\,c^{3}+\big(-6.03961\times 10^{-14}\times 1.5^{c}+6.\times 1.5^{c}+10.\times 2.5^{c}+1.04213\times 10^{-13}\times 2.5^{c}\big)\,c^{4}\big)+a^{2}\ \big(0.333333+1.83333\,c+3.83333\,c^{2}+3.83333\,c^{3}+1.83333\,c^{4}+0.333333\,c^{5}\big)+b^{2}\ \big(-18.\times 2.25^{c}+30.\times 3.75^{c}-30.\times 3.75^{c}+30.\times 3.75^{c}-50.\times 6.25^{c}+9.\ e^{0.81093\,c}-6.\ e^{0.81093\,c}+10.\ e^{1.83258\,c}+25.\ e^{1.83258\,c}+c^{4}\ \big(-3.\ e^{0.81093\,c}+5.\ e^{1.83258\,c}\big)+c^{3}\ \big(-18.\times 2.25^{c}+30.\times 3.75^{c}-30.\times 3.75^{c}+30.\times 3.75^{c}-50.\times 6.25^{c}+9.\ e^{0.81093\,c}-15.\ e^{0.81093\,c}+25.\ e^{1.83258\,c}+25.\ e^{1.83258\,c}\big)+c\ \big(-63.\times 2.25^{c}+105.\times 3.75^{c}-105.\times 3.75^{c}+105.\times 3.75^{c}-175.\times 6.25^{c}+31.5\ e^{0.81093\,c}-21.\ e^{0.81093\,c}+35.\ e^{1.83258\,c}+87.5\ e^{1.83258\,c}\big)+c^{2}\ \big(-63.\times 2.25^{c}+105.\times 3.75^{c}-105.\times 3.75^{c}+105.\times 3.75^{c}-175.\times 6.25^{c}+31.5\ e^{0.81093\,c}-27.\ e^{0.81093\,c}+45.\ e^{1.83258\,c}+87.5\ e^{1.83258\,c}\big)\big)\big)\big)\Big/\big(a\,b\ \big(15.\times 1.5^{c}-15.\times 2.5^{c}+\big(78.\times 1.5^{c}-70.\times 2.5^{c}\big)\,c+\big(150.\times 1.5^{c}-110.\times 2.5^{c}\big)\,c^{2}+\big(132.\times 1.5^{c}-60.\times 2.5^{c}\big)\,c^{3}+\big(51.\times 1.5^{c}+5.\times 2.5^{c}\big)\,c^{4}+\big(6.\times 1.5^{c}+10.\times 2.5^{c}\big)\,c^{5}\big)+a^{2}\ \big(0.673611+4.37847\,c+11.4514\,c^{2}+15.4931\,c^{3}+11.4514\,c^{4}+4.37847\,c^{5}+0.673611\,c^{6}\big)+b^{2}\ \big(30.\times 3.75^{c}-15.125\ e^{0.81093\,c}-14.7917\ e^{1.83258\,c}+c^{2}\ \big(210.\times 3.75^{c}-112.\ e^{0.81093\,c}-93.3333\ e^{1.83258\,c}\big)+c\ \big(135.\times 3.75^{c}-68.0625\ e^{0.81093\,c}-66.5625\ e^{1.83258\,c}\big)+c^{3}\ \big(135.\times 3.75^{c}-83.375\ e^{0.81093\,c}-41.0417\ e^{1.83258\,c}\big)+c^{5}\ \big(-3.0625\ e^{0.81093\,c}+5.10417\ e^{1.83258\,c}\big)+c^{4}\ \big(30.\times 3.75^{c}-27.375\ e^{0.81093\,c}+5.625\ e^{1.83258\,c}\big)\big)\big)$$

In[31]:=
```
sz = vz / vt
```

Out[31]=
$$\left(0.333333\, a^2 \left(1.+c\right)^4 \left(2.+c\right) \left(0.5+1.\, c\right)\right) \Big/ \left(a\, b \left(15.\times 1.5^c - 15.\times 2.5^c + \left(78.\times 1.5^c - 70.\times 2.5^c\right) c + \left(150.\times 1.5^c - 110.\times 2.5^c\right) c^2 + \left(132.\times 1.5^c - 60.\times 2.5^c\right) c^3 + \left(51.\times 1.5^c + 5.\times 2.5^c\right) c^4 + \left(6.\times 1.5^c + 10.\times 2.5^c\right) c^5\right) + a^2 \left(0.673611 + 4.37847\, c + 11.4514\, c^2 + 15.4931\, c^3 + 11.4514\, c^4 + 4.37847\, c^5 + 0.673611\, c^6\right) + b^2 \left(30.\times 3.75^c - 15.125\, e^{0.81093\, c} - 14.7917\, e^{1.83258\, c} + c^2 \left(210.\times 3.75^c - 112.\, e^{0.81093\, c} - 93.3333\, e^{1.83258\, c}\right) + c \left(135.\times 3.75^c - 68.0625\, e^{0.81093\, c} - 66.5625\, e^{1.83258\, c}\right) + c^3 \left(135.\times 3.75^c - 83.375\, e^{0.81093\, c} - 41.0417\, e^{1.83258\, c}\right) + c^5 \left(-3.0625\, e^{0.81093\, c} + 5.10417\, e^{1.83258\, c}\right) + c^4 \left(30.\times 3.75^c - 27.375\, e^{0.81093\, c} + 5.625\, e^{1.83258\, c}\right)\right)\right)$$

In[32]:=
```
swx = vwx / vt
```

Out[32]=
$$-\left(\left(18.375\, b^2 \left(1.+c\right)^2 \left(2.+c\right) \left(0.5\times 2.25^c - 0.833333\times 3.75^c + 1.64966\times 3.75^c - 0.833333\times 3.75^c + 1.38889\times 6.25^c - 0.241497\, e^{0.81093\, c} - 0.25\, e^{0.81093\, c} - 0.694444\, e^{1.83258\, c} - 0.685941\, e^{1.83258\, c} + c \left(1.\times 2.25^c - 1.66667\times 3.75^c + 3.29932\times 3.75^c - 1.66667\times 3.75^c + 2.77778\times 6.25^c - 0.482993\, e^{0.81093\, c} - 0.5\, e^{0.81093\, c} - 1.38889\, e^{1.83258\, c} - 1.37188\, e^{1.83258\, c}\right) + c^2 \left(0.00340136\, e^{0.81093\, c} - 0.00566893\, e^{1.83258\, c}\right)\right)\right) \Big/ \left(a\, b \left(15.\times 1.5^c - 15.\times 2.5^c + \left(78.\times 1.5^c - 70.\times 2.5^c\right) c + \left(150.\times 1.5^c - 110.\times 2.5^c\right) c^2 + \left(132.\times 1.5^c - 60.\times 2.5^c\right) c^3 + \left(51.\times 1.5^c + 5.\times 2.5^c\right) c^4 + \left(6.\times 1.5^c + 10.\times 2.5^c\right) c^5\right) + a^2 \left(0.673611 + 4.37847\, c + 11.4514\, c^2 + 15.4931\, c^3 + 11.4514\, c^4 + 4.37847\, c^5 + 0.673611\, c^6\right) + b^2 \left(30.\times 3.75^c - 15.125\, e^{0.81093\, c} - 14.7917\, e^{1.83258\, c} + c^2 \left(210.\times 3.75^c - 112.\, e^{0.81093\, c} - 93.3333\, e^{1.83258\, c}\right) + c \left(135.\times 3.75^c - 68.0625\, e^{0.81093\, c} - 66.5625\, e^{1.83258\, c}\right) + c^3 \left(135.\times 3.75^c - 83.375\, e^{0.81093\, c} - 41.0417\, e^{1.83258\, c}\right) + c^5 \left(-3.0625\, e^{0.81093\, c} + 5.10417\, e^{1.83258\, c}\right) + c^4 \left(30.\times 3.75^c - 27.375\, e^{0.81093\, c} + 5.625\, e^{1.83258\, c}\right)\right)\right)\right)$$

In[33]:=
```
swz = vwz / vt
```

Out[33]=
```
0.
```

In[34]:=
```
sxz = vxz / vt
```

Out[34]=
$$\left(0.00694444\, a^2 \left(1.+c\right) \left(2.+c\right) \left(0.5+1.\, c\right) \left(1.+1.\, c\right)^3\right) \Big/ \left(a\, b \left(15.\times 1.5^c - 15.\times 2.5^c + \left(78.\times 1.5^c - 70.\times 2.5^c\right) c + \left(150.\times 1.5^c - 110.\times 2.5^c\right) c^2 + \left(132.\times 1.5^c - 60.\times 2.5^c\right) c^3 + \left(51.\times 1.5^c + 5.\times 2.5^c\right) c^4 + \left(6.\times 1.5^c + 10.\times 2.5^c\right) c^5\right) + a^2 \left(0.673611 + 4.37847\, c + 11.4514\, c^2 + 15.4931\, c^3 + 11.4514\, c^4 + 4.37847\, c^5 + 0.673611\, c^6\right) + b^2 \left(30.\times 3.75^c - 15.125\, e^{0.81093\, c} - 14.7917\, e^{1.83258\, c} + c^2 \left(210.\times 3.75^c - 112.\, e^{0.81093\, c} - 93.3333\, e^{1.83258\, c}\right) + c \left(135.\times 3.75^c - 68.0625\, e^{0.81093\, c} - 66.5625\, e^{1.83258\, c}\right) + c^3 \left(135.\times 3.75^c - 83.375\, e^{0.81093\, c} - 41.0417\, e^{1.83258\, c}\right) + c^5 \left(-3.0625\, e^{0.81093\, c} + 5.10417\, e^{1.83258\, c}\right) + c^4 \left(30.\times 3.75^c - 27.375\, e^{0.81093\, c} + 5.625\, e^{1.83258\, c}\right)\right)\right)$$

In[35]:=
```
swxz = Simplify[(vt - vw - vx - vz - vwx - vwz - vxz) / vt]
```

Out[35]=
$$\left(\left(1.+c\right)^4 \left(2.+c\right) \left(0.5+1.\, c\right)\right.$$

$$\left(-0.333333\,a^2-\left(1.\left(-9.\left(1.\times 1.5^c-0.75\times 1.5^c+1.25\times 2.5^c-1.66667\times 2.5^c\right)^3+\right.\right.\right.$$
$$\left.\left.\left.9.\left(1.\times 1.5^c-1.25\times 1.5^c+2.08333\times 2.5^c-1.66667\times 2.5^c\right)^3\right)b^2\right)\Big/$$
$$\left(\left(-1.5\times 1.5^c+2.5^{1+c}\right)\left(1.+c\right)^2\right)-\frac{0.00694444\,a^2\left(1.+1.\,c\right)^3}{\left(1.+c\right)^3}+$$
$$\left(18.375\,b^2\left(0.5\times 2.25^c-0.833333\times 3.75^c+1.64966\times 3.75^c-0.833333\times 3.75^c+1.38889\times\right.\right.$$
$$6.25^c-0.241497\,e^{0.81093\,c}-0.25\,e^{0.81093\,c}-0.694444\,e^{1.83258\,c}-0.685941\,e^{1.83258\,c}+$$
$$c\left(1.\times 2.25^c-1.66667\times 3.75^c+3.29932\times 3.75^c-1.66667\times 3.75^c+2.77778\times 6.25^c-\right.$$
$$\left.0.482993\,e^{0.81093\,c}-0.5\,e^{0.81093\,c}-1.38889\,e^{1.83258\,c}-1.37188\,e^{1.83258\,c}\right)+$$
$$\left.c^2\left(0.00340136\,e^{0.81093\,c}-0.00566893\,e^{1.83258\,c}\right)\right)\Big/\left(\left(1.+c\right)^2\left(0.5+1.\,c\right)\right)+$$
$$\left(a\,b\left(6.03961\times 10^{-14}\times 1.5^c-15.\times 1.5^c+15.\times 2.5^c-1.04213\times 10^{-13}\times 2.5^c+\right.\right.$$
$$\left(2.55795\times 10^{-13}\times 1.5^c-63.\times 1.5^c+55.\times 2.5^c-4.92643\times 10^{-13}\times 2.5^c\right)c+$$
$$\left(3.69482\times 10^{-13}\times 1.5^c-87.\times 1.5^c+55.\times 2.5^c-7.95808\times 10^{-13}\times 2.5^c\right)c^2+$$
$$\left(2.55795\times 10^{-13}\times 1.5^c-45.\times 1.5^c+5.\times 2.5^c-4.92643\times 10^{-13}\times 2.5^c\right)c^3+$$
$$\left.\left(6.03961\times 10^{-14}\times 1.5^c-6.\times 1.5^c-10.\times 2.5^c-1.04213\times 10^{-13}\times 2.5^c\right)c^4\right)+$$
$$a^2\left(-0.333333-1.83333\,c-3.83333\,c^2-3.83333\,c^3-1.83333\,c^4-0.333333\,c^5\right)+$$
$$b^2\left(18.\times 2.25^c-30.\times 3.75^c+30.\times 3.75^c-30.\times 3.75^c+50.\times 6.25^c-9.\,e^{0.81093\,c}+\right.$$
$$6.\,e^{0.81093\,c}-10.\,e^{1.83258\,c}-25.\,e^{1.83258\,c}+c^4\left(3.\,e^{0.81093\,c}-5.\,e^{1.83258\,c}\right)+$$
$$c^2\left(63.\times 2.25^c-105.\times 3.75^c+105.\times 3.75^c-105.\times 3.75^c+175.\times 6.25^c-\right.$$
$$\left.31.5\,e^{0.81093\,c}+27.\,e^{0.81093\,c}-45.\,e^{1.83258\,c}-87.5\,e^{1.83258\,c}\right)+$$
$$c\left(63.\times 2.25^c-105.\times 3.75^c+105.\times 3.75^c-105.\times 3.75^c+175.\times 6.25^c-\right.$$
$$\left.31.5\,e^{0.81093\,c}+21.\,e^{0.81093\,c}-35.\,e^{1.83258\,c}-87.5\,e^{1.83258\,c}\right)+$$
$$\left.c^3\left(18.\times 2.25^c-30.\times 3.75^c+30.\times 3.75^c-30.\times 3.75^c+50.\times 6.25^c-9.\,e^{0.81093\,c}+\right.\right.$$
$$\left.\left.15.\,e^{0.81093\,c}-25.\,e^{1.83258\,c}-25.\,e^{1.83258\,c}\right)\right)\Big/\left(\left(1.+c\right)^3\left(2.+c\right)\left(0.5+1.\,c\right)\right)+$$
$$\left(a\,b\left(15.\times 1.5^c-15.\times 2.5^c+\left(78.\times 1.5^c-70.\times 2.5^c\right)c+\left(150.\times 1.5^c-110.\times 2.5^c\right)c^2+\right.\right.$$
$$\left(132.\times 1.5^c-60.\times 2.5^c\right)c^3+\left(51.\times 1.5^c+5.\times 2.5^c\right)c^4+\left(6.\times 1.5^c+10.\times 2.5^c\right)c^5\Big)+$$
$$a^2\left(0.673611+4.37847\,c+11.4514\,c^2+15.4931\,c^3+11.4514\,c^4+4.37847\,c^5+0.673611\,c^6\right)+$$
$$b^2\left(30.\times 3.75^c-15.125\,e^{0.81093\,c}-14.7917\,e^{1.83258\,c}+c^2\left(210.\times 3.75^c-112.\,e^{0.81093\,c}-\right.\right.$$
$$\left.93.3333\,e^{1.83258\,c}\right)+c\left(135.\times 3.75^c-68.0625\,e^{0.81093\,c}-66.5625\,e^{1.83258\,c}\right)+$$
$$c^3\left(135.\times 3.75^c-83.375\,e^{0.81093\,c}-41.0417\,e^{1.83258\,c}\right)+c^5\left(-3.0625\,e^{0.81093\,c}+\right.$$
$$\left.\left.\left.5.10417\,e^{1.83258\,c}\right)+c^4\left(30.\times 3.75^c-27.375\,e^{0.81093\,c}+5.625\,e^{1.83258\,c}\right)\right)\right)\Big/$$
$$\left.\left.\left(\left(1.+c\right)^4\left(2.+c\right)\left(0.5+1.\,c\right)\right)\right)\right)\Big/\left(a\,b\left(15.\times 1.5^c-15.\times 2.5^c+\right.\right.$$
$$\left(78.\times 1.5^c-70.\times 2.5^c\right)c+$$
$$\left(150.\times 1.5^c-110.\times 2.5^c\right)c^2+$$
$$\left(132.\times 1.5^c-60.\times 2.5^c\right)c^3+$$
$$\left(51.\times 1.5^c+5.\times 2.5^c\right)c^4+$$
$$\left.\left(6.\times 1.5^c+10.\times 2.5^c\right)c^5\right)+$$
$$a^2\left(0.673611+4.37847\,c+11.4514\,c^2+15.4931\,c^3+11.4514\,c^4+\right.$$
$$\left.4.37847\,c^5+0.673611\,c^6\right)+$$
$$b^2\left(30.\times 3.75^c-15.125\,e^{0.81093\,c}-14.7917\,e^{1.83258\,c}+\right.$$
$$c^2\left(210.\times 3.75^c-112.\,e^{0.81093\,c}-93.3333\,e^{1.83258\,c}\right)+$$
$$c\left(135.\times 3.75^c-68.0625\,e^{0.81093\,c}-66.5625\,e^{1.83258\,c}\right)+$$
$$c^3\left(135.\times 3.75^c-83.375\,e^{0.81093\,c}-41.0417\,e^{1.83258\,c}\right)+$$

$$c^5 \left(-3.0625\, e^{0.81093\, c} + 5.10417\, e^{1.83258\, c}\right) + c^4 \left(30. \times 3.75^c - 27.375\, e^{0.81093\, c} + 5.625\, e^{1.83258\, c}\right)\Big)\Big)$$