

$$\mathbf{A} = \{\{\mathbf{a}_0, \mathbf{a}_1\}, \{\mathbf{a}_1, \mathbf{a}_2\}\}$$

$$\mathbf{B} = \{\mathbf{b}_0, \mathbf{b}_1\}$$

$$\mathbf{x}_0 = \{\mathbf{0}, \mathbf{0}\}$$

$$\{\{\mathbf{a}_0, \mathbf{a}_1\}, \{\mathbf{a}_1, \mathbf{a}_2\}\}$$

$$\{\mathbf{b}_0, \mathbf{b}_1\}$$

$$\{\mathbf{0}, \mathbf{0}\}$$

$$\mathbf{r}_0 = \mathbf{B} - \mathbf{A} \cdot \mathbf{x}_0$$

$$\{\mathbf{b}_0, \mathbf{b}_1\}$$

$$\mathbf{p}_0 = \mathbf{r}_0$$

$$\{\mathbf{b}_0, \mathbf{b}_1\}$$

$$\mathbf{p}_0 \cdot (\mathbf{A} \cdot \mathbf{p}_0)$$

$$\mathbf{b}_0 (\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) + \mathbf{b}_1 (\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1)$$

$$\mathbf{rsold} = \mathbf{r}_0 \cdot \mathbf{r}_0$$

$$\mathbf{b}_0^2 + \mathbf{b}_1^2$$

$$\mathbf{alpha}_0 = (\mathbf{r}_0 \cdot \mathbf{r}_0) / (\mathbf{p}_0 \cdot (\mathbf{A} \cdot \mathbf{p}_0))$$

$$\mathbf{b}_0^2 + \mathbf{b}_1^2$$

$$\mathbf{b}_0 (\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) + \mathbf{b}_1 (\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1)$$

$$\mathbf{r}_1 = \mathbf{r}_0 - \mathbf{alpha}_0 * (\mathbf{A} \cdot \mathbf{p}_0)$$

$$\left\{ \mathbf{b}_0 - \frac{(\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) (\mathbf{b}_0^2 + \mathbf{b}_1^2)}{\mathbf{b}_0 (\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) + \mathbf{b}_1 (\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1)}, \right. \\ \left. \mathbf{b}_1 - \frac{(\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1) (\mathbf{b}_0^2 + \mathbf{b}_1^2)}{\mathbf{b}_0 (\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) + \mathbf{b}_1 (\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1)} \right\}$$

$$\mathbf{x}_1 = \mathbf{x}_0 + \mathbf{alpha}_0 * \mathbf{p}_0$$

$$\left\{ \frac{\mathbf{b}_0 (\mathbf{b}_0^2 + \mathbf{b}_1^2)}{\mathbf{b}_0 (\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) + \mathbf{b}_1 (\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1)}, \frac{\mathbf{b}_1 (\mathbf{b}_0^2 + \mathbf{b}_1^2)}{\mathbf{b}_0 (\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) + \mathbf{b}_1 (\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1)} \right\}$$

$$\mathbf{rsnew} = \mathbf{r}_1 \cdot \mathbf{r}_1$$

$$\left( \mathbf{b}_0 - \frac{(\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) (\mathbf{b}_0^2 + \mathbf{b}_1^2)}{\mathbf{b}_0 (\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) + \mathbf{b}_1 (\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1)} \right)^2 + \\ \left( \mathbf{b}_1 - \frac{(\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1) (\mathbf{b}_0^2 + \mathbf{b}_1^2)}{\mathbf{b}_0 (\mathbf{a}_0 \mathbf{b}_0 + \mathbf{a}_1 \mathbf{b}_1) + \mathbf{b}_1 (\mathbf{a}_1 \mathbf{b}_0 + \mathbf{a}_2 \mathbf{b}_1)} \right)^2$$

**Simplify[rsnew]**

$$\frac{(b_0^2 + b_1^2) \left( (-a_0 + a_2) b_0 b_1 + a_1 (b_0^2 - b_1^2) \right)^2}{(a_0 b_0^2 + b_1 (2 a_1 b_0 + a_2 b_1))^2}$$

**beta = rsnew / rsold**

$$\frac{1}{b_0^2 + b_1^2} \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 \right)$$

**Simplify[beta]**

$$\frac{((-a_0 + a_2) b_0 b_1 + a_1 (b_0^2 - b_1^2))^2}{(a_0 b_0^2 + b_1 (2 a_1 b_0 + a_2 b_1))^2}$$

**p1 = r1 + beta \* p0**

$$\left\{ b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} b_0 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 \right), \right. \\ \left. b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} b_1 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 \right) \right\}$$

**alpha1 = (r1.r1) / (p1.(A.p1))**

$$\left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 \right) /$$

$$\begin{aligned}
& \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) \\
& \left( a_0 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) + \\
& a_1 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) + \\
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) \\
& \left( a_1 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) + \\
& a_2 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right.
\end{aligned}$$

$$b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \right)$$

**Simplify[%37]**

$$- \frac{a_0 b_0^2 + b_1 (2 a_1 b_0 + a_2 b_1)}{(a_1^2 - a_0 a_2) (b_0^2 + b_1^2)}$$

**r<sub>2</sub> = r<sub>1</sub> - alpha<sub>1</sub> \* (A.p<sub>1</sub>)**

$$\begin{aligned} & \left\{ b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} - \right. \\ & \left( \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 + \right. \right. \\ & \left. \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 \right) \\ & \left( a_0 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\ & \left. b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\ & \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \right) \left. \right) + \\ & a_1 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\ & b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\ & \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \left. \right) \left. \right) \left. \right) / \\ & \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\ & b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \end{aligned}$$

$$\begin{aligned}
& \left( \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right)^2 \right) \Bigg) \\
& \left( a_0 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \right. \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right)^2 + \right. \\
& \quad \left. \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right)^2 \right) \Bigg) + \\
& a_1 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \right. \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right)^2 + \right. \\
& \quad \left. \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right)^2 \right) \Bigg) + \\
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right)^2 + \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \right. \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right)^2 \right) \Bigg) \\
& \left( a_1 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \right. \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right)^2 + \right. \\
& \quad \left. \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right)^2 \right) \Bigg) + \\
& a_2 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right) / \right.
\end{aligned}$$

$$\begin{aligned}
& \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right)^2 + \\
& \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \Bigg) \Bigg) \Bigg) , \\
& b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} - \\
& \left( \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 + \right. \right. \\
& \left. \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 \right) \\
& \left( a_1 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 \right. \right. \\
& \left. \left. (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \Bigg) \Bigg) + \\
& a_2 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 \right. \right. \\
& \left. \left. (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \Bigg) \Bigg) \Bigg) / \\
& \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \Bigg) \Bigg) \\
& \left( a_0 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\
& \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \Bigg) \Bigg) +
\end{aligned}$$

$$\begin{aligned}
& \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \Bigg) + \\
& a_1 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \\
& \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \Bigg) \Bigg) + \\
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \Bigg) \\
& \left( a_1 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \\
& \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \Bigg) \Bigg) + \\
& a_2 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \\
& \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \Bigg) \Bigg) \Bigg) \Bigg\}
\end{aligned}$$

**Factor[r<sub>2</sub>]**

{0, 0}

$$\mathbf{x}_2 = \mathbf{x}_1 + \alpha_1 * \mathbf{p}_1$$

$$\begin{aligned} & \left\{ \frac{b_0 (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \right. \\ & \left( \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 + \right. \right. \\ & \left. \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 \right) \\ & \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\ & b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\ & \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \\ & \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \left. \right) \left. \right) \left. \right) / \\ & \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\ & b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\ & \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \\ & \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \left. \right) \left. \right) \left. \right) / \\ & \left( a_0 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\ & b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\ & \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\ & \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\ & \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \left. \right) \left. \right) + \\ & a_1 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\ & b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\ & \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\ & \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\ & \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \left. \right) \left. \right) \end{aligned}$$



$$\begin{aligned}
& \left. \left. \left. \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right)^2 \right) \right) \right) + \right. \\
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \quad b_1 (a_1 b_0 + a_2 b_1) \left. \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) \right) / \\
& \quad \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \left. \right) \left. \right) \\
& \left( a_1 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / \right. \\
& \quad \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \\
& \quad \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad \quad \left. b_1 (a_1 b_0 + a_2 b_1) \right)^2 \left. \right) \left. \right) + \\
& a_2 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / \right. \\
& \quad \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \\
& \quad \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad \quad \left. b_1 (a_1 b_0 + a_2 b_1) \right)^2 \left. \right) \left. \right) \left. \right) \left. \right), \\
& \frac{b_1 (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \\
& \left( \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 + \right. \right. \\
& \quad \left. \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} \right)^2 \right) \\
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \right. \\
& \quad \left. \frac{1}{b_0^2 + b_1^2} \right)
\end{aligned}$$

$$\begin{aligned}
& b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \\
& \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \Bigg) \Bigg) / \\
& \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad \left. b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \\
& \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \Bigg) \Bigg) \\
& \left( a_0 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad \left. b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \right. \\
& \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\
& \quad \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \right) \Bigg) \Bigg) + \\
& a_1 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad \left. b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \right. \\
& \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\
& \quad \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \right) \Bigg) \Bigg) + \\
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad \left. b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \\
& \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \Bigg) \Bigg) \\
& \left( a_1 \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right.
\end{aligned}$$

$$\begin{aligned}
& b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \\
& \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) + \\
& a_2 \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \\
& \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) \Bigg) \Bigg) \Bigg) \Bigg\}
\end{aligned}$$

**Factor[x<sub>2</sub>]**

$$\left\{ \frac{a_2 b_0 - a_1 b_1}{-a_1^2 + a_0 a_2}, \frac{-a_1 b_0 + a_0 b_1}{-a_1^2 + a_0 a_2} \right\}$$

**bncg = A.x<sub>2</sub>**

$$\begin{aligned}
& \left\{ a_0 \left( \frac{b_0 (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \right. \right. \\
& \quad \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \right. \\
& \quad \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \\
& \quad \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) \\
& \quad \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 \right. \right. \right. \\
& \quad \quad \left. \left. (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \\
& \quad \quad \left. \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Bigg) \Bigg) \Bigg) \Bigg) / \\
& \quad \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad \left. b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \left( b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \right. \right.
\end{aligned}$$

$$\begin{aligned}
& \left. \left. \left. \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right)^2 + \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + \right. \right. \right. \right. \right. \right. \right. \\
& \quad \left. \left. \left. b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right)^2 \right) \right) \right) \\
& \left( a_0 \left( b_0 - \left( \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \right. \right. \\
& \quad \left. \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) + \frac{1}{b_0^2 + b_1^2} b_0 \left( \left( b_0 - \left( \left( a_0 b_0 + a_1 b_1 \right) \right. \right. \right. \right. \right. \right. \\
& \quad \left. \left. \left. \left( b_0^2 + b_1^2 \right) \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + \right. \right. \right. \\
& \quad \left. \left. \left. a_2 b_1 \right) \right) \right)^2 + \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \right. \\
& \quad \left. \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right)^2 \right) \right) \right) + \\
& a_1 \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \\
& \quad \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) + \right. \\
& \quad \left. \frac{1}{b_0^2 + b_1^2} b_1 \left( \left( b_0 - \left( \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \right. \right. \right. \\
& \quad \left. \left. \left. \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 + \right. \right. \\
& \quad \left. \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \right. \\
& \quad \left. \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 \right) \right) \right) \right) + \\
& \left( b_1 - \frac{\left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right)}{b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad \left. b_1 \left( \left( b_0 - \left( \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \right. \right. \right. \right. \\
& \quad \left. \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 + \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + \right. \right. \right. \right. \\
& \quad \left. \left. \left. b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right)^2 \right) \right) \right) \\
& \left( a_1 \left( b_0 - \left( \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \right. \right. \\
& \quad \left. \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) + \right. \right. \\
& \quad \left. \frac{1}{b_0^2 + b_1^2} b_0 \left( \left( b_0 - \left( \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \right. \right. \right. \\
& \quad \left. \left. \left. \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 + \right. \right. \\
& \quad \left. \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \right. \\
& \quad \left. \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 \right) \right) \right) \right) +
\end{aligned}$$

$$\begin{aligned}
& a_2 \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \left. b_1 (a_1 b_0 + a_2 b_1) \right) + \\
& \quad \frac{1}{b_0^2 + b_1^2} b_1 \left( (b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \\
& \quad \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \left. \right)^2 + \\
& \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \left. b_1 (a_1 b_0 + a_2 b_1) \right) \left. \right)^2 \left. \right) \left. \right) \left. \right) + \\
& a_1 \left( \frac{b_1 (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \left( \left( (b_0 - \left( (a_0 b_0 + a_1 b_1) \right. \right. \right. \right. \\
& \quad \left. \left. \left. (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \right. \\
& \quad \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \right) \\
& \quad \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad \left. b_1 \left( (b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 \right. \right. \\
& \quad \left. \left. (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \right) \left. \right) \left. \right) / \\
& \quad \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad \left. \left. b_0 \left( (b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \right. \right. \\
& \quad \left. \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + \right. \right. \right. \\
& \quad \left. \left. \left. b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \right) \left. \right) \left. \right) \\
& \quad \left( a_0 \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right) + \\
& \quad \frac{1}{b_0^2 + b_1^2} b_0 \left( (b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \\
& \quad \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \left. \right)^2 + \\
& \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \left. b_1 (a_1 b_0 + a_2 b_1) \right) \left. \right)^2 \left. \right)
\end{aligned}$$

$$\begin{aligned}
& \left. \left. \left. \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right)^2 \right) \right) \right) + \right. \\
& a_1 \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \\
& \quad \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) + \\
& \quad \left. \frac{1}{b_0^2 + b_1^2} b_1 \left( \left( b_0 - \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \right. \right. \\
& \quad \left. \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 + \\
& \quad \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \\
& \quad \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 \right) \right) \right) + \\
& \left( b_1 - \frac{\left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right)}{b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \\
& \quad \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 + \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + \right. \right. \\
& \quad \left. \left. b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 \right) \right) \\
& \left( a_1 \left( b_0 - \left( \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \right. \\
& \quad \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right) + \\
& \quad \left. \frac{1}{b_0^2 + b_1^2} b_0 \left( \left( b_0 - \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \right. \right. \\
& \quad \left. \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 + \\
& \quad \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \\
& \quad \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 \right) \right) \right) + \\
& a_2 \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \\
& \quad \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right) + \\
& \quad \left. \frac{1}{b_0^2 + b_1^2} b_1 \left( \left( b_0 - \left( a_0 b_0 + a_1 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \right. \right. \\
& \quad \left. \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 + \\
& \quad \left( b_1 - \left( \left( a_1 b_0 + a_2 b_1 \right) \left( b_0^2 + b_1^2 \right) \right) / \left( b_0 \left( a_0 b_0 + a_1 b_1 \right) + \right. \right. \\
& \quad \left. \left. b_1 \left( a_1 b_0 + a_2 b_1 \right) \right) \right)^2 \right) \right) \right) \right) \right),
\end{aligned}$$

$$\begin{aligned}
& a_1 \left( \frac{b_0 (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) \right. \right. \right. \right. \\
& \quad \left. \left. \left. \left. \left( b_0^2 + b_1^2 \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\
& \quad \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \\
& \quad \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 \right. \right. \\
& \quad \left. \left. (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \left. \right) \left. \right) / \\
& \quad \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + \right. \right. \\
& \quad \left. \left. b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \left. \right) \left. \right) \\
& \quad \left( a_0 \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1)) + \right. \right. \\
& \quad \left. \frac{1}{b_0^2 + b_1^2} b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \right. \\
& \quad \left. \left. \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \right. \right. \\
& \quad \left. \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \right. \\
& \quad \left. \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \right) \left. \right) + \\
& \quad a_1 \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1)) + \right. \right. \\
& \quad \left. \frac{1}{b_0^2 + b_1^2} b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \right. \\
& \quad \left. \left. \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \right. \right. \\
& \quad \left. \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \right. \\
& \quad \left. \left. \left. b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \right) \right) \left. \right) \left. \right) +
\end{aligned}$$

$$\begin{aligned}
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + \right. \right. \\
& \quad \quad \left. \left. b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 \Big) \Big) \\
& \left( a_1 \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) + \right. \\
& \quad \frac{1}{b_0^2 + b_1^2} b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\
& \quad \quad \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Big) \Big) + \\
& a_2 \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \left. b_1 (a_1 b_0 + a_2 b_1) \right) + \\
& \quad \frac{1}{b_0^2 + b_1^2} b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / \right. \right. \\
& \quad \quad \left. \left. (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\
& \quad \quad \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Big) \Big) \Big) \Big) + \\
& a_2 \left( \frac{b_1 (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) \right. \right. \right. \\
& \quad \left. \left. \left( b_0^2 + b_1^2 \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \right)^2 + \right. \\
& \quad \left. \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \right. \\
& \quad \quad \left. \left. b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \Big) \Big) \Big) \Big) + \\
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 \right. \right. \\
& \quad \quad \left. \left. (a_1 b_0 + a_2 b_1) \right) \right)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) / \right.
\end{aligned}$$



$$\begin{aligned}
& \left( \left( \left( b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1) \right) \right)^2 \right) \Bigg) \Bigg/ \\
& \left( \left( b_0 - \frac{(a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \right. \\
& \quad b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad b_1 (a_1 b_0 + a_2 b_1)) \Big)^2 + \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + \right. \right. \\
& \quad \quad \quad b_1^2) \Big) / (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \Big)^2 \Bigg) \Bigg) \\
& \left( a_0 \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad \quad b_1 (a_1 b_0 + a_2 b_1)) + \\
& \quad \quad \frac{1}{b_0^2 + b_1^2} b_0 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / \right. \\
& \quad \quad \quad (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \Big)^2 + \\
& \quad \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \\
& \quad \quad \quad b_1 (a_1 b_0 + a_2 b_1)) \Big)^2 \Bigg) \Bigg) + \\
& a_1 \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \\
& \quad \quad b_1 (a_1 b_0 + a_2 b_1)) + \\
& \quad \quad \frac{1}{b_0^2 + b_1^2} b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / \right. \\
& \quad \quad \quad (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \Big)^2 + \\
& \quad \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \\
& \quad \quad \quad b_1 (a_1 b_0 + a_2 b_1)) \Big)^2 \Bigg) \Bigg) + \\
& \left( b_1 - \frac{(a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)}{b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)} + \frac{1}{b_0^2 + b_1^2} \right. \\
& \quad b_1 \left( \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / \right. \\
& \quad \quad (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1)) \Big)^2 + \\
& \quad \quad \left( b_1 - \left( (a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2) \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \\
& \quad \quad \quad b_1 (a_1 b_0 + a_2 b_1)) \Big)^2 \Bigg) \Bigg) \\
& \left( a_1 \left( b_0 - \left( (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2) \right) \right) / (b_0 (a_0 b_0 + a_1 b_1) + \right.
\end{aligned}$$

$$\begin{aligned}
& b_1 (a_1 b_0 + a_2 b_1) + \\
& \frac{1}{b_0^2 + b_1^2} b_0 \left( (b_0 - (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)) / \right. \\
& \quad (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1))^2 + \\
& \quad (b_1 - ((a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)) / (b_0 (a_0 b_0 + a_1 b_1) + \\
& \quad \quad b_1 (a_1 b_0 + a_2 b_1))^2) \Big) + \\
& a_2 \left( b_1 - ((a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)) / (b_0 (a_0 b_0 + a_1 b_1) + \right. \\
& \quad b_1 (a_1 b_0 + a_2 b_1) + \\
& \quad \frac{1}{b_0^2 + b_1^2} b_1 \left( (b_0 - (a_0 b_0 + a_1 b_1) (b_0^2 + b_1^2)) / \right. \\
& \quad \quad (b_0 (a_0 b_0 + a_1 b_1) + b_1 (a_1 b_0 + a_2 b_1))^2 + \\
& \quad \quad (b_1 - ((a_1 b_0 + a_2 b_1) (b_0^2 + b_1^2)) / (b_0 (a_0 b_0 + a_1 b_1) + \\
& \quad \quad \quad b_1 (a_1 b_0 + a_2 b_1))^2) \Big) \Big) \Big) \Big) \Big) \Big) \Big\}
\end{aligned}$$

**Factor[bncg]**

{b<sub>0</sub>, b<sub>1</sub>}

**Simplify[bncg]**

{b<sub>0</sub>, b<sub>1</sub>}