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Lampiran

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> 
> restart
> F1 := λ0^2 − λ1^2 − λ2^2 − λ3^2 − 2·(a0·λ0 − a1·λ1 − a2·λ2−a3·λ3) + (a0^2 − a1^2 − a2^2 − a3^2) − n·(b0^2 − b1^2 − b2^2 − b3^2) = 0 :
> F2 := 2·λ0·λ1 − 2·(a0·λ1 + a1·λ0) + 2·a0·a1 − 2·n·b0·b1 = 0 :
> F3 := 2·λ0·λ2 − 2·(a0·λ2 + a2·λ0) + 2·a0·a2 − 2·n·b0·b2 = 0 :
> F4 := 2·λ0·λ3 − 2·(a0·λ3 + a3·λ0) + 2·a0·a3 − 2·n·b0·b3 = 0 :
> G := solve({F1, F2, F3, F4}, [λ0, λ1, λ2, λ3]) :
> GG := map(allvalues, {G})
```

$$GG := \Bigg\{ \Bigg[\Big[\lambda0 = a0 - b0\sqrt{n},\ \lambda1 = -\frac{n\,b0\,b1 + a1\,(a0 - b0\sqrt{n}) - a0\,a1}{b0\sqrt{n}},\ \lambda2 = -\frac{n\,b0\,b2 + a2\,(a0 - b0\sqrt{n}) - a0\,a2}{b0\sqrt{n}},\ \lambda3 = -\frac{n\,b0\,b3 + a3\,(a0 - b0\sqrt{n}) - a0\,a3}{b0\sqrt{n}} \Big],$$
$$\Big[\lambda0 = a0 - \sqrt{-b1^2 n - b2^2 n - b3^2 n},\ \lambda1 = -\frac{n\,b0\,b1 + a1\,(a0 - \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a1}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}},\ \lambda2 = -\frac{n\,b0\,b2 + a2\,(a0 - \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a2}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}},\ \lambda3 = -\frac{n\,b0\,b3 + a3\,(a0 - \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a3}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}} \Big] \Bigg],$$
$$\Bigg[\Big[\lambda0 = a0 - b0\sqrt{n},\ \lambda1 = -\frac{n\,b0\,b1 + a1\,(a0 - b0\sqrt{n}) - a0\,a1}{b0\sqrt{n}},\ \lambda2 = -\frac{n\,b0\,b2 + a2\,(a0 - b0\sqrt{n}) - a0\,a2}{b0\sqrt{n}},\ \lambda3 = -\frac{n\,b0\,b3 + a3\,(a0 - b0\sqrt{n}) - a0\,a3}{b0\sqrt{n}} \Big],$$
$$\Big[\lambda0 = a0 + \sqrt{-b1^2 n - b2^2 n - b3^2 n},\ \lambda1 = \frac{n\,b0\,b1 + a1\,(a0 + \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a1}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}},\ \lambda2 = \frac{n\,b0\,b2 + a2\,(a0 + \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a2}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}},\ \lambda3 = \frac{n\,b0\,b3 + a3\,(a0 + \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a3}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}} \Big] \Bigg],$$
$$\Bigg[\Big[\lambda0 = a0 + b0\sqrt{n},\ \lambda1 = \frac{n\,b0\,b1 + a1\,(a0 + b0\sqrt{n}) - a0\,a1}{b0\sqrt{n}},\ \lambda2 = \frac{n\,b0\,b2 + a2\,(a0 + b0\sqrt{n}) - a0\,a2}{b0\sqrt{n}},\ \lambda3 = \frac{n\,b0\,b3 + a3\,(a0 + b0\sqrt{n}) - a0\,a3}{b0\sqrt{n}} \Big],$$
$$\Big[\lambda0 = a0 - \sqrt{-b1^2 n - b2^2 n - b3^2 n},\ \lambda1 = -\frac{n\,b0\,b1 + a1\,(a0 - \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a1}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}},\ \lambda2 = -\frac{n\,b0\,b2 + a2\,(a0 - \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a2}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}},\ \lambda3 = -\frac{n\,b0\,b3 + a3\,(a0 - \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a3}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}} \Big] \Bigg],$$
$$\Bigg[\Big[\lambda0 = a0 + b0\sqrt{n},\ \lambda1 = \frac{n\,b0\,b1 + a1\,(a0 + b0\sqrt{n}) - a0\,a1}{b0\sqrt{n}},\ \lambda2 = \frac{n\,b0\,b2 + a2\,(a0 + b0\sqrt{n}) - a0\,a2}{b0\sqrt{n}},\ \lambda3 = \frac{n\,b0\,b3 + a3\,(a0 + b0\sqrt{n}) - a0\,a3}{b0\sqrt{n}} \Big],$$
$$\Big[\lambda0 = a0 + \sqrt{-b1^2 n - b2^2 n - b3^2 n},\ \lambda1 = \frac{n\,b0\,b1 + a1\,(a0 + \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a1}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}},\ \lambda2 = \frac{n\,b0\,b2 + a2\,(a0 + \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a2}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}},\ \lambda3 = \frac{n\,b0\,b3 + a3\,(a0 + \sqrt{-b1^2 n - b2^2 n - b3^2 n}) - a0\,a3}{\sqrt{-b1^2 n - b2^2 n - b3^2 n}} \Big] \Bigg] \Bigg\} \quad (1)$$

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> 
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