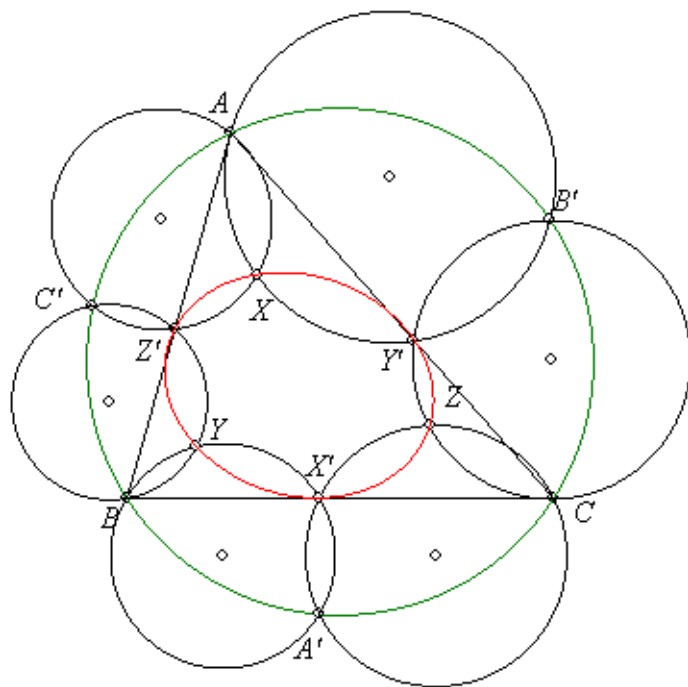


Problem

Let $AB'CA'BC'$ be a hexagon inscribed in a circle. Construct the circles with AB' , $B'C$, CA' , $A'B$, BC' , $C'A$ as diameters. Then the consecutive second intersection points X , Y' , Z , X' , Y , Z' lie on a circle (Proposed in Alex Bogovolny's Interactive Mathematics Miscellany and Puzzles)

Calculations with Barycentric coordinates

<< Baricentricas`;



```
{ptA1, ptB1, ptC1} = TernaCiclicaPuntos[ConjugadoIsogonal[{-1 - p, 1, p}]];
ptX = SimetriaAxial[ptA, Medio[ptA, ptC1], Medio[ptA, ptB1]];
ptY = SimetriaAxial[ptB, Medio[ptB, ptA1], Medio[ptB, ptC1]];
ptZ = SimetriaAxial[ptC, Medio[ptC, ptB1], Medio[ptC, ptA1]];
ptX1 = SimetriaAxial[ptA1, Medio[ptA1, ptC], Medio[ptA1, ptB]];
ptY1 = SimetriaAxial[ptB1, Medio[ptB1, ptA], Medio[ptB1, ptC]];
ptZ1 = SimetriaAxial[ptC1, Medio[ptC1, ptB], Medio[ptC1, ptA]];
conic = Last[ConicaCincoPuntos[{ptX, ptY, ptZ, ptY1, ptZ1}]]
```

$$\begin{aligned}
 &4a^4b^4c^4qx^2 - 4a^2b^6c^4qx^2 + 4a^2b^4c^6qx^2 - 2a^6b^4c^2pqx^2 + 4a^4b^6c^2pqx^2 - 2a^2b^8c^2pqx^2 + \\
 &2a^2b^4c^6pqx^2 + 12a^2b^4c^6q^2x^2 - 4b^6c^6q^2x^2 + 4b^4c^8q^2x^2 - 8a^4b^4c^4p^2q^2x^2 + 16a^2b^6c^4p^2q^2x^2 - \\
 &8b^8c^4p^2q^2x^2 + 4a^2b^4c^6p^2q^2x^2 + 4b^6c^6p^2q^2x^2 + 4b^4c^8p^2q^2x^2 - 4a^4b^6c^2p^2q^2x^2 + \\
 &8a^2b^8c^2p^2q^2x^2 - 4b^{10}c^2p^2q^2x^2 + 4a^2b^6c^4p^2q^2x^2 - 4b^8c^4p^2q^2x^2 + 8b^6c^6p^2q^2x^2 + \\
 &4a^2b^8c^2p^3q^2x^2 - 4b^{10}c^2p^3q^2x^2 + 4b^8c^4p^3q^2x^2 + 8b^4c^8p^3q^2x^2 - 8a^2b^4c^6p^3q^2x^2 + \\
 &16b^6c^6p^3q^2x^2 + 8b^4c^8p^3q^2x^2 - 8a^2b^6c^4p^2q^3x^2 + 8b^8c^4p^2q^3x^2 + 16b^6c^6p^2q^3x^2 + \\
 &8b^8c^4p^3q^3x^2 + 2a^6b^2c^4qrx^2 - 2a^2b^6c^4qrx^2 + 4a^2b^4c^6qrx^2 - 2a^2b^2c^8qrx^2 - \\
 &a^8b^2c^2pqr x^2 + a^6b^4c^2pqr x^2 + a^4b^6c^2pqr x^2 - a^2b^8c^2pqr x^2 + a^6b^2c^4pqr x^2 - \\
 &2a^4b^4c^4pqr x^2 + a^2b^6c^4pqr x^2 + a^4b^2c^6pqr x^2 + a^2b^4c^6pqr x^2 - a^2b^2c^8pqr x^2 + \\
 &6a^4b^2c^6q^2rx^2 + 4a^2b^4c^6q^2rx^2 - 2b^6c^6q^2rx^2 - 4a^2b^2c^8q^2rx^2 + 4b^4c^8q^2rx^2 - \\
 &2b^2c^{10}q^2rx^2 - 4a^6b^2c^4p^2q^2rx^2 + 4a^4b^4c^4p^2q^2rx^2 + 4a^2b^6c^4p^2q^2rx^2 - 4b^8c^4p^2q^2rx^2 + \\
 &6a^4b^2c^6p^2q^2rx^2 - 4a^2b^4c^6p^2q^2rx^2 + 6b^6c^6p^2q^2rx^2 - 2b^2c^{10}p^2q^2rx^2 - 4a^6b^4c^2p^2q^2rx^2 + \\
 &6a^4b^6c^2p^2q^2rx^2 - 2b^{10}c^2p^2q^2rx^2 + 4a^4b^4c^4p^2q^2rx^2 - 4a^2b^6c^4p^2q^2rx^2 + \\
 &4a^2b^4c^6p^2q^2rx^2 + 6b^6c^6p^2q^2rx^2 - 4b^4c^8p^2q^2rx^2 + 6a^4b^6c^2p^3q^2rx^2 - 4a^2b^8c^2p^3q^2rx^2 - \\
 &2b^{10}c^2p^3q^2rx^2 + 4a^2b^6c^4p^3q^2rx^2 + 4b^8c^4p^3q^2rx^2 - 2b^6c^6p^3q^2rx^2 + 4a^2b^2c^8p^3q^2rx^2 + \\
 &4b^4c^8p^3q^2rx^2 - 4b^2c^{10}p^3q^2rx^2 - 4a^4b^2c^6p^3q^2rx^2 + 4a^2b^4c^6p^3q^2rx^2 + 8b^6c^6p^3q^2rx^2 + \\
 &8a^2b^2c^8p^3q^2rx^2 - 4b^4c^8p^3q^2rx^2 - 4b^2c^{10}p^3q^2rx^2 - 8a^4b^4c^4p^2q^3rx^2 + 4a^2b^6c^4p^2q^3rx^2 + \\
 &4b^8c^4p^2q^3rx^2 + 16a^2b^4c^6p^2q^3rx^2 + 4b^6c^6p^2q^3rx^2 - 8b^4c^8p^2q^3rx^2 + 12a^2b^6c^4p^3q^3rx^2 +
 \end{aligned}$$

$$\begin{aligned}
& 4b^8c^4p^3q^3rx^2 - 4b^6c^6p^3q^3rx^2 - a^8b^2c^2p^2q^2r^2x^2 + a^6b^4c^2p^2q^2r^2x^2 + a^4b^6c^2p^2q^2r^2x^2 - \\
& a^2b^8c^2p^2q^2r^2x^2 + a^6b^2c^4p^2q^2r^2x^2 - 2a^4b^4c^4p^2q^2r^2x^2 + a^2b^6c^4p^2q^2r^2x^2 + \\
& a^4b^2c^6p^2q^2r^2x^2 + a^2b^4c^6p^2q^2r^2x^2 - a^2b^2c^8p^2q^2r^2x^2 + 2a^6b^4c^2p^3q^2r^2x^2 - \\
& 2a^2b^8c^2p^3q^2r^2x^2 + 4a^2b^6c^4p^3q^2r^2x^2 - 2a^2b^4c^6p^3q^2r^2x^2 - 2a^6b^2c^4p^2q^3r^2x^2 + \\
& 2a^2b^6c^4p^2q^3r^2x^2 + 4a^4b^2c^6p^2q^3r^2x^2 - 2a^2b^2c^8p^2q^3r^2x^2 + 4a^4b^4c^4p^3q^3r^2x^2 + \\
& 4a^2b^6c^4p^3q^3r^2x^2 - 4a^2b^4c^6p^3q^3r^2x^2 - 8a^4b^4c^4xy + 4a^6b^4c^2pxy - 4a^4b^6c^2pxy - \\
& 4a^4b^4c^4pxy - 4a^4b^4c^4qxy + 4a^2b^6c^4qxy - 4a^2b^4c^6qxy + 2a^6b^4c^2pqxy - \\
& 4a^4b^6c^2pqxy + 2a^2b^8c^2pqxy - 2a^2b^4c^6pqxy - 12a^6b^2c^4rxy - 4a^4b^4c^4rxy + \\
& 4a^4b^2c^6rxy + 6a^8b^2c^2prxy - 4a^6b^4c^2prxy - 2a^4b^6c^2prxy - 8a^6b^2c^4prxy + \\
& 2a^4b^2c^6prxy - 12a^6b^2c^4qrxxy + 8a^4b^4c^4qrxxy + 4a^2b^6c^4qrxxy - 16a^4b^2c^6qrxxy - \\
& 8a^2b^4c^6qrxxy + 4a^2b^2c^8qrxxy + 6a^8b^2c^2pqrxy - 10a^6b^4c^2pqrxy + 2a^4b^6c^2pqrxy + \\
& 2a^2b^8c^2pqrxy + 2a^6b^2c^4pqrxy - 2a^2b^6c^4pqrxy - 10a^4b^2c^6pqrxy - \\
& 2a^2b^4c^6pqrxy + 2a^2b^2c^8pqrxy - 22a^4b^2c^6q^2rxy + 4a^2b^4c^6q^2rxy + 2b^6c^6q^2rxy - \\
& 4a^2b^2c^8q^2rxy - 4b^4c^8q^2rxy + 2b^2c^{10}q^2rxy + 12a^6b^2c^4pq^2rxy - 20a^4b^4c^4pq^2rxy + \\
& 4a^2b^6c^4pq^2rxy + 4b^8c^4pq^2rxy - 10a^4b^2c^6pq^2rxy - 6b^6c^6pq^2rxy - 4a^2b^2c^8pq^2rxy + \\
& 2b^2c^{10}pq^2rxy + 4a^6b^4c^2p^2q^2rxy - 6a^4b^6c^2p^2q^2rxy + 2b^{10}c^2p^2q^2rxy - \\
& 4a^4b^4c^4p^2q^2rxy + 4a^2b^6c^4p^2q^2rxy - 4a^2b^4c^6p^2q^2rxy - 6b^6c^6p^2q^2rxy + \\
& 4b^4c^8p^2q^2rxy - 2a^4b^6c^2p^3q^2rxy + 2b^{10}c^2p^3q^2rxy - 4b^8c^4p^3q^2rxy + 2b^6c^6p^3q^2rxy - \\
& 12a^2b^2c^8q^3rxy - 4b^4c^8q^3rxy + 4b^2c^{10}q^3rxy + 8a^4b^2c^6pq^3rxy - 16a^2b^4c^6pq^3rxy - \\
& 8b^6c^6pq^3rxy - 12a^2b^2c^8pq^3rxy + 4b^4c^8pq^3rxy + 4b^2c^{10}pq^3rxy + 8a^4b^4c^4p^2q^3rxy - \\
& 4a^2b^6c^4p^2q^3rxy - 4b^8c^4p^2q^3rxy - 16a^2b^4c^6p^2q^3rxy - 4b^6c^6p^2q^3rxy + 8b^4c^8p^2q^3rxy - \\
& 4a^2b^6c^4p^3q^3rxy - 4b^8c^4p^3q^3rxy + 4b^6c^6p^3q^3rxy - 4a^8c^4r^2xy - 4a^6b^2c^4r^2xy + \\
& 4a^6c^6r^2xy + 2a^{10}c^2pr^2xy - 2a^6b^4c^2pr^2xy - 4a^8c^4pr^2xy + 2a^6c^6pr^2xy - 4a^8c^4qr^2xy - \\
& 4a^6b^2c^4qr^2xy + 8a^4b^4c^4qr^2xy - 4a^6c^6qr^2xy - 16a^4b^2c^6qr^2xy + 8a^4c^8qr^2xy + \\
& 2a^{10}c^2pqr^2xy - 6a^6b^4c^2pqr^2xy + 4a^4b^6c^2pqr^2xy + 4a^6b^2c^4pqr^2xy - 4a^4b^4c^4pqr^2xy - \\
& 6a^6c^6pqr^2xy - 4a^4b^2c^6pqr^2xy + 4a^4c^8pqr^2xy - 8a^6c^6q^2r^2xy - 16a^4b^2c^6q^2r^2xy + \\
& 8a^2b^4c^6q^2r^2xy + 4a^4c^8q^2r^2xy - 12a^2b^2c^8q^2r^2xy + 4a^2c^{10}q^2r^2xy + 4a^8c^4pq^2r^2xy + \\
& 4a^6b^2c^4pq^2r^2xy - 20a^4b^4c^4pq^2r^2xy + 12a^2b^6c^4pq^2r^2xy - 6a^6c^6pq^2r^2xy - \\
& 10a^2b^4c^6pq^2r^2xy - 4a^2b^2c^8pq^2r^2xy + 2a^2c^{10}pq^2r^2xy + 2a^8b^2c^2p^2q^2r^2xy + \\
& 2a^6b^4c^2p^2q^2r^2xy - 10a^4b^6c^2p^2q^2r^2xy + 6a^2b^8c^2p^2q^2r^2xy - 2a^6b^2c^4p^2q^2r^2xy + \\
& 2a^2b^6c^4p^2q^2r^2xy - 4a^4b^6c^2p^3q^2r^2xy + 6a^2b^8c^2p^3q^2r^2xy - 8a^2b^6c^4p^3q^2r^2xy + \\
& 2a^2b^4c^6p^3q^2r^2xy - 4a^4c^8q^3r^2xy - 12a^2b^2c^8q^3r^2xy + 4a^2c^{10}q^3r^2xy + 2a^6c^6pq^3r^2xy + \\
& 4a^4b^2c^6pq^3r^2xy - 22a^2b^4c^6pq^3r^2xy - 4a^4c^8pq^3r^2xy - 4a^2b^2c^8pq^3r^2xy + \\
& 2a^2c^{10}pq^3r^2xy + 4a^6b^2c^4p^2q^3r^2xy + 8a^4b^4c^4p^2q^3r^2xy - 12a^2b^6c^4p^2q^3r^2xy - \\
& 8a^4b^2c^6p^2q^3r^2xy - 16a^2b^4c^6p^2q^3r^2xy + 4a^2b^2c^8p^2q^3r^2xy - 4a^4b^4c^4p^3q^3r^2xy - \\
& 12a^2b^6c^4p^3q^3r^2xy + 4a^2b^4c^6p^3q^3r^2xy + 2a^8b^2c^2p^2q^2r^3xy - 4a^6b^4c^2p^2q^2r^3xy + \\
& 2a^4b^6c^2p^2q^2r^3xy - 2a^4b^2c^6p^2q^2r^3xy - 4a^6b^4c^2p^3q^2r^3xy + 4a^4b^6c^2p^3q^2r^3xy - \\
& 4a^4b^4c^4p^3q^2r^3xy + 4a^6b^2c^4p^2q^3r^3xy - 4a^4b^4c^4p^2q^3r^3xy - 4a^4b^2c^6p^2q^3r^3xy - \\
& 8a^4b^4c^4p^3q^3r^3xy + 4a^6b^2c^4ry^2 + 4a^4b^4c^4ry^2 - 4a^4b^2c^6ry^2 - 2a^8b^2c^2pry^2 + \\
& 2a^4b^6c^2pry^2 + 4a^6b^2c^4pry^2 - 2a^4b^2c^6pry^2 + 2a^6b^2c^4qry^2 - 2a^2b^6c^4qry^2 + \\
& 4a^2b^4c^6qry^2 - 2a^2b^2c^8qry^2 - a^8b^2c^2pqry^2 + a^6b^4c^2pqry^2 + a^4b^6c^2pqry^2 - \\
& a^2b^8c^2pqry^2 + a^6b^2c^4pqry^2 - 2a^4b^4c^4pqry^2 + a^2b^6c^4pqry^2 + a^4b^2c^6pqry^2 + \\
& a^2b^4c^6pqry^2 - a^2b^2c^8pqry^2 + 4a^8c^4r^2y^2 + 12a^6b^2c^4r^2y^2 - 4a^6c^6r^2y^2 - 2a^{10}c^2pr^2y^2 - \\
& 4a^8b^2c^2pr^2y^2 + 6a^6b^4c^2pr^2y^2 + 4a^8c^4pr^2y^2 + 4a^6b^2c^4pr^2y^2 - 2a^6c^6pr^2y^2 + \\
& 4a^8c^4qr^2y^2 + 4a^6b^2c^4qr^2y^2 - 8a^4b^4c^4qr^2y^2 + 4a^6c^6qr^2y^2 + 16a^4b^2c^6qr^2y^2 - \\
& 8a^4c^8qr^2y^2 - 2a^{10}c^2pqr^2y^2 + 6a^6b^4c^2pqr^2y^2 - 4a^4b^6c^2pqr^2y^2 - 4a^6b^2c^4pqr^2y^2 + \\
& 4a^4b^4c^4pqr^2y^2 + 6a^6c^6pqr^2y^2 + 4a^4b^2c^6pqr^2y^2 - 4a^4c^8pqr^2y^2 + 8a^6c^6q^2r^2y^2 + \\
& 4a^4b^2c^6q^2r^2y^2 - 4a^2b^4c^6q^2r^2y^2 - 4a^4c^8q^2r^2y^2 + 8a^2b^2c^8q^2r^2y^2 - 4a^2c^{10}q^2r^2y^2 - \\
& 4a^8c^4pq^2r^2y^2 + 4a^6b^2c^4pq^2r^2y^2 + 4a^4b^4c^4pq^2r^2y^2 - 4a^2b^6c^4pq^2r^2y^2 + 6a^6c^6pq^2r^2y^2 - \\
& 4a^4b^2c^6pq^2r^2y^2 + 6a^2b^4c^6pq^2r^2y^2 - 2a^2c^{10}pq^2r^2y^2 - a^8b^2c^2p^2q^2r^2y^2 + a^6b^4c^2p^2q^2r^2y^2 + \\
& a^4b^6c^2p^2q^2r^2y^2 - a^2b^8c^2p^2q^2r^2y^2 + a^6b^2c^4p^2q^2r^2y^2 - 2a^4b^4c^4p^2q^2r^2y^2 + \\
& a^2b^6c^4p^2q^2r^2y^2 + a^4b^2c^6p^2q^2r^2y^2 + a^2b^4c^6p^2q^2r^2y^2 - a^2b^2c^8p^2q^2r^2y^2 + 4a^4c^8q^3r^2y^2 + \\
& 4a^2b^2c^8q^3r^2y^2 - 4a^2c^{10}q^3r^2y^2 - 2a^6c^6pq^3r^2y^2 + 4a^4b^2c^6pq^3r^2y^2 + 6a^2b^4c^6pq^3r^2y^2 + \\
& 4a^4c^8pq^3r^2y^2 - 4a^2b^2c^8pq^3r^2y^2 - 2a^2c^{10}pq^3r^2y^2 - 2a^6b^2c^4p^2q^3r^2y^2 + \\
& 2a^2b^6c^4p^2q^3r^2y^2 + 4a^4b^2c^6p^2q^3r^2y^2 - 2a^2b^2c^8p^2q^3r^2y^2 + 8a^8c^4r^3y^2 - 4a^{10}c^2pr^3y^2 + \\
& 4a^8b^2c^2pr^3y^2 + 4a^8c^4pr^3y^2 + 8a^8c^4qr^3y^2 - 8a^6b^2c^4qr^3y^2 + 16a^6c^6qr^3y^2 -
\end{aligned}$$

$$\begin{aligned}
& 4a^{10}c^2pqr^3y^2 + 8a^8b^2c^2pqr^3y^2 - 4a^6b^4c^2pqr^3y^2 - 4a^8c^4pqr^3y^2 + 4a^6b^2c^4pqr^3y^2 + \\
& 8a^6c^6pqr^3y^2 + 16a^6c^6q^2r^3y^2 - 8a^4b^2c^6q^2r^3y^2 + 8a^4c^8q^2r^3y^2 - 8a^8c^4p^2q^2r^3y^2 + \\
& 16a^6b^2c^4p^2q^2r^3y^2 - 8a^4b^4c^4p^2q^2r^3y^2 + 4a^6c^6p^2q^2r^3y^2 + 4a^4b^2c^6p^2q^2r^3y^2 + 4a^4c^8p^2q^2r^3y^2 - \\
& 2a^8b^2c^2p^2q^2r^3y^2 + 4a^6b^4c^2p^2q^2r^3y^2 - 2a^4b^6c^2p^2q^2r^3y^2 + 2a^4b^2c^6p^2q^2r^3y^2 + \\
& 8a^4c^8p^2q^2r^3y^2 - 4a^6c^6p^2q^2r^3y^2 + 12a^4b^2c^6p^2q^2r^3y^2 + 4a^4c^8p^2q^2r^3y^2 - 4a^6b^2c^4p^2q^2r^3y^2 + \\
& 4a^4b^4c^4p^2q^2r^3y^2 + 4a^4b^2c^6p^2q^2r^3y^2 - 8a^4b^4c^4xyz + 4a^6b^4c^2pxz - 4a^4b^6c^2pxz - \\
& 4a^4b^4c^4pxz - 4a^4b^4c^4qxz + 4a^2b^6c^4qxz - 12a^2b^4c^6qxz + 4a^6b^4c^2pqxz - \\
& 8a^4b^6c^2pqxz + 4a^2b^8c^2pqxz + 8a^4b^4c^4pqxz - 16a^2b^6c^4pqxz - 12a^2b^4c^6pqxz + \\
& 2a^6b^6p^2qxyz - 4a^4b^8p^2qxyz + 2a^2b^{10}p^2qxyz + 4a^4b^6c^2p^2qxyz - 4a^2b^8c^2p^2qxyz - \\
& 22a^2b^6c^4p^2qxyz - 4a^4b^8p^3qxyz + 4a^2b^{10}p^3qxyz - 12a^2b^8c^2p^3qxyz - 4a^4b^4c^6q^2xz + \\
& 4b^6c^6q^2xz - 4b^4c^8q^2xz + 8a^4b^4c^4pq^2xz - 16a^2b^6c^4pq^2xz + 8b^8c^4pq^2xz - \\
& 4a^2b^4c^6pq^2xz - 4b^6c^6pq^2xz - 4b^4c^8pq^2xz + 8a^4b^6c^2p^2q^2xz - 12a^2b^8c^2p^2q^2xz + \\
& 4b^{10}c^2p^2q^2xz - 16a^2b^6c^4p^2q^2xz + 4b^8c^4p^2q^2xz - 8b^6c^6p^2q^2xz - 12a^2b^8c^2p^3q^2xz + \\
& 4b^{10}c^2p^3q^2xz - 4b^8c^4p^3q^2xz - 4a^6b^2c^4rxz - 4a^4b^4c^4rxz + 4a^4b^2c^6rxz + \\
& 2a^8b^2c^2prxz - 2a^4b^6c^2prxz - 4a^6b^2c^4prxz + 2a^4b^2c^6prxz - 2a^6b^2c^4qrxz + \\
& 2a^2b^6c^4qrxz - 4a^4b^2c^6qrxz - 8a^2b^4c^6qrxz + 6a^2b^2c^8qrxz + 2a^8b^2c^2pqrxyz - \\
& 2a^6b^4c^2pqrxyz - 2a^4b^6c^2pqrxyz + 2a^2b^8c^2pqrxyz + 2a^6b^2c^4pqrxyz - 10a^2b^6c^4pqrxyz - \\
& 10a^4b^2c^6pqrxyz + 2a^2b^4c^6pqrxyz + 6a^2b^2c^8pqrxyz + 4a^8b^4p^2qrxz - 6a^6b^6p^2qrxz + \\
& 2a^2b^{10}p^2qrxz + 4a^6b^4c^2p^2qrxz - 4a^2b^8c^2p^2qrxz - 20a^4b^4c^4p^2qrxz - \\
& 10a^2b^6c^4p^2qrxz + 12a^2b^4c^6p^2qrxz - 8a^6b^6p^3qrxz + 4a^4b^8p^3qrxz + 4a^2b^{10}p^3qrxz - \\
& 16a^4b^6c^2p^3qrxz - 12a^2b^8c^2p^3qrxz + 8a^2b^6c^4p^3qrxz - 2a^4b^2c^6q^2rxz + 2b^6c^6q^2rxz - \\
& 4b^4c^8q^2rxz + 2b^2c^{10}q^2rxz + 4a^6b^2c^4pq^2rxz - 4a^4b^4c^4pq^2rxz - 4a^2b^6c^4pq^2rxz + \\
& 4b^8c^4pq^2rxz - 6a^4b^2c^6pq^2rxz + 4a^2b^4c^6pq^2rxz - 6b^6c^6pq^2rxz + 2b^2c^{10}pq^2rxz + \\
& 12a^6b^4c^2p^2q^2rxz - 10a^4b^6c^2p^2q^2rxz - 4a^2b^8c^2p^2q^2rxz + 2b^{10}c^2p^2q^2rxz - \\
& 20a^4b^4c^4p^2q^2rxz + 4a^2b^4c^6p^2q^2rxz - 6b^6c^6p^2q^2rxz + 4b^4c^8p^2q^2rxz - \\
& 22a^4b^6c^2p^3q^2rxz - 4a^2b^8c^2p^3q^2rxz + 2b^{10}c^2p^3q^2rxz + 4a^2b^6c^4p^3q^2rxz - \\
& 4b^8c^4p^3q^2rxz + 2b^6c^6p^3q^2rxz + 2a^{10}b^2p^2qr^2xz - 6a^6b^6p^2qr^2xz + 4a^4b^8p^2qr^2xz + \\
& 4a^6b^4c^2p^2qr^2xz - 4a^4b^6c^2p^2qr^2xz - 6a^6b^2c^4p^2qr^2xz - 4a^4b^4c^4p^2qr^2xz + \\
& 4a^4b^2c^6p^2qr^2xz - 4a^8b^4p^3qr^2xz - 4a^6b^6p^3qr^2xz + 8a^4b^8p^3qr^2xz - 4a^6b^4c^2p^3qr^2xz - \\
& 16a^4b^6c^2p^3qr^2xz + 8a^4b^4c^4p^3qr^2xz + 6a^8b^2c^2p^2q^2r^2xz + 2a^6b^4c^2p^2q^2r^2xz - \\
& 10a^4b^6c^2p^2q^2r^2xz + 2a^2b^8c^2p^2q^2r^2xz - 10a^6b^2c^4p^2q^2r^2xz - 2a^2b^6c^4p^2q^2r^2xz + \\
& 2a^4b^2c^6p^2q^2r^2xz - 2a^2b^4c^6p^2q^2r^2xz + 2a^2b^2c^8p^2q^2r^2xz - 12a^6b^4c^2p^3q^2r^2xz - \\
& 16a^4b^6c^2p^3q^2r^2xz + 4a^2b^8c^2p^3q^2r^2xz + 8a^4b^4c^4p^3q^2r^2xz - 8a^2b^6c^4p^3q^2r^2xz + \\
& 4a^2b^4c^6p^3q^2r^2xz + 2a^6b^2c^4p^2q^3r^2xz - 2a^2b^6c^4p^2q^3r^2xz - 4a^4b^2c^6p^2q^3r^2xz + \\
& 2a^2b^2c^8p^2q^3r^2xz - 4a^4b^4c^4p^3q^3r^2xz - 4a^2b^6c^4p^3q^3r^2xz + 4a^2b^4c^6p^3q^3r^2xz + \\
& 2a^{10}b^2p^2qr^3xz - 4a^8b^4p^2qr^3xz + 2a^6b^6p^2qr^3xz - 2a^6b^2c^4p^2qr^3xz - 4a^8b^4p^3qr^3xz + \\
& 4a^6b^6p^3qr^3xz - 4a^6b^4c^2p^3qr^3xz + 6a^8b^2c^2p^2q^2r^3xz - 8a^6b^4c^2p^2q^2r^3xz + \\
& 2a^4b^6c^2p^2q^2r^3xz - 4a^6b^2c^4p^2q^2r^3xz - 2a^4b^2c^6p^2q^2r^3xz - 12a^6b^4c^2p^3q^2r^3xz + \\
& 4a^4b^6c^2p^3q^2r^3xz - 4a^4b^4c^4p^3q^2r^3xz + 4a^6b^2c^4p^2q^3r^3xz - 4a^4b^4c^4p^2q^3r^3xz - \\
& 4a^4b^2c^6p^2q^3r^3xz - 8a^4b^4c^4p^3q^3r^3xz - 8a^4b^4c^4yz + 4a^6b^4c^2pyz - 12a^4b^6c^2pyz - \\
& 4a^4b^4c^4pyz + 4a^6b^6p^2yz - 4a^4b^8p^2yz - 4a^4b^6c^2p^2yz - 4a^4b^4c^4qyz + 4a^2b^6c^4qyz - \\
& 4a^2b^4c^6qyz + 2a^6b^4c^2pqyz - 8a^4b^6c^2pqyz + 6a^2b^8c^2pqyz - 4a^2b^6c^4pqyz - \\
& 2a^2b^4c^6pqyz + 2a^6b^6p^2qyz - 4a^4b^8p^2qyz + 2a^2b^{10}p^2qyz - 2a^2b^6c^4p^2qyz - \\
& 4a^6b^2c^4ryz - 4a^4b^4c^4ryz + 4a^4b^2c^6ryz + 4a^8b^2c^2pryz - 16a^6b^4c^2pryz - \\
& 12a^4b^6c^2pryz - 8a^6b^2c^4pryz + 8a^4b^4c^4pryz + 4a^4b^2c^6pryz + 8a^8b^4p^2ryz - \\
& 4a^6b^6p^2ryz - 4a^4b^8p^2ryz - 16a^6b^4c^2p^2ryz - 4a^4b^6c^2p^2ryz + 8a^4b^4c^4p^2ryz - \\
& 2a^6b^2c^4qryz + 2a^2b^6c^4qryz - 4a^2b^4c^6qryz + 2a^2b^2c^8qryz + 2a^8b^2c^2pqryz - \\
& 10a^6b^4c^2pqryz + 2a^4b^6c^2pqryz + 6a^2b^8c^2pqryz - 2a^6b^2c^4pqryz - 10a^2b^6c^4pqryz - \\
& 2a^4b^2c^6pqryz + 2a^2b^4c^6pqryz + 2a^2b^2c^8pqryz + 4a^8b^4p^2qryz - 6a^6b^6p^2qryz + \\
& 2a^2b^{10}p^2qryz - 4a^6b^4c^2p^2qryz + 4a^4b^6c^2p^2qryz - 4a^4b^4c^4p^2qryz - \\
& 6a^2b^6c^4p^2qryz + 4a^2b^4c^6p^2qryz + 2a^{10}c^2pr^2yz - 4a^8b^2c^2pr^2yz - 22a^6b^4c^2pr^2yz - \\
& 4a^8c^4pr^2yz + 4a^6b^2c^4pr^2yz + 2a^6c^6pr^2yz + 4a^{10}b^2p^2r^2yz + 4a^8b^4p^2r^2yz - \\
& 8a^6b^6p^2r^2yz - 12a^8b^2c^2p^2r^2yz - 16a^6b^4c^2p^2r^2yz + 8a^6b^2c^4p^2r^2yz + 2a^{10}c^2pqr^2yz - \\
& 4a^8b^2c^2pqr^2yz - 10a^6b^4c^2pqr^2yz + 12a^4b^6c^2pqr^2yz - 20a^4b^4c^4pqr^2yz - \\
& 6a^6c^6pqr^2yz + 4a^4b^2c^6pqr^2yz + 4a^4c^8pqr^2yz + 2a^{10}b^2p^2qr^2yz - 6a^6b^6p^2qr^2yz + \\
& 4a^4b^8p^2qr^2yz - 4a^8b^2c^2p^2qr^2yz + 4a^4b^6c^2p^2qr^2yz - 10a^6b^2c^4p^2qr^2yz - \\
& 20a^4b^4c^4p^2qr^2yz + 12a^4b^2c^6p^2qr^2yz + 4a^8c^4pq^2r^2yz - 4a^6b^2c^4pq^2r^2yz -
\end{aligned}$$

$$\begin{aligned}
& 4a^4b^4c^4p^2q^2r^2yz + 4a^2b^6c^4p^2q^2r^2yz - 6a^6c^6p^2q^2r^2yz + 4a^4b^2c^6p^2q^2r^2yz - \\
& 6a^2b^4c^6p^2q^2r^2yz + 2a^2c^{10}p^2q^2r^2yz + 2a^8b^2c^2p^2q^2r^2yz - 2a^6b^4c^2p^2q^2r^2yz - \\
& 2a^4b^6c^2p^2q^2r^2yz + 2a^2b^8c^2p^2q^2r^2yz - 10a^6b^2c^4p^2q^2r^2yz + 2a^2b^6c^4p^2q^2r^2yz + \\
& 2a^4b^2c^6p^2q^2r^2yz - 10a^2b^4c^6p^2q^2r^2yz + 6a^2b^2c^8p^2q^2r^2yz - 2a^6b^4c^2p^3q^2r^2yz + \\
& 2a^2b^8c^2p^3q^2r^2yz - 4a^2b^6c^4p^3q^2r^2yz + 2a^2b^4c^6p^3q^2r^2yz + 2a^6c^6p^3q^2r^2yz - \\
& 2a^2b^4c^6p^3q^2r^2yz - 4a^4c^8p^3q^2r^2yz + 2a^2c^{10}p^3q^2r^2yz + 2a^6b^2c^4p^2q^3r^2yz - \\
& 2a^2b^6c^4p^2q^3r^2yz - 8a^4b^2c^6p^2q^3r^2yz - 4a^2b^4c^6p^2q^3r^2yz + 6a^2b^2c^8p^2q^3r^2yz - \\
& 4a^4b^4c^4p^3q^3r^2yz - 4a^2b^6c^4p^3q^3r^2yz + 4a^2b^4c^6p^3q^3r^2yz + 4a^{10}c^2p^3r^3yz - \\
& 12a^8b^2c^2p^3r^3yz - 4a^8c^4p^3r^3yz + 4a^{10}b^2p^2r^3yz - 4a^8b^4p^2r^3yz - 12a^8b^2c^2p^2r^3yz + \\
& 4a^{10}c^2pqr^3yz - 12a^8b^2c^2pqr^3yz + 8a^6b^4c^2pqr^3yz + 4a^8c^4pqr^3yz - \\
& 16a^6b^2c^4pqr^3yz - 8a^6c^6pqr^3yz + 2a^{10}b^2p^2qr^3yz - 4a^8b^4p^2qr^3yz + 2a^6b^6p^2qr^3yz - \\
& 4a^8b^2c^2p^2qr^3yz + 4a^6b^4c^2p^2qr^3yz - 22a^6b^2c^4p^2qr^3yz + 8a^8c^4p^2r^3yz - \\
& 16a^6b^2c^4p^2r^3yz + 8a^4b^4c^4p^2r^3yz - 4a^6c^6p^2r^3yz - 4a^4b^2c^6p^2r^3yz - \\
& 4a^4c^8p^2r^3yz + 4a^8b^2c^2p^2r^3yz - 8a^6b^4c^2p^2r^3yz + 4a^4b^6c^2p^2r^3yz - \\
& 16a^6b^2c^4p^2r^3yz + 8a^4b^4c^4p^2r^3yz - 12a^4b^2c^6p^2r^3yz - 4a^6b^4c^2p^3q^2r^3yz + \\
& 4a^4b^6c^2p^3q^2r^3yz - 4a^4b^4c^4p^3q^2r^3yz + 4a^6c^6p^3q^2r^3yz - 4a^4b^2c^6p^3q^2r^3yz - \\
& 4a^4c^8p^3q^2r^3yz + 4a^6b^2c^4p^2q^3r^3yz - 4a^4b^4c^4p^2q^3r^3yz - 12a^4b^2c^6p^2q^3r^3yz - \\
& 8a^4b^4c^4p^3q^3r^3yz - 4a^6b^4c^2p^2z^2 + 4a^4b^6c^2p^2z^2 + 4a^4b^4c^4p^2z^2 - 4a^6b^6p^2z^2 + 4a^4b^8p^2z^2 + \\
& 12a^4b^6c^2p^2z^2 + 8a^4b^8p^3z^2 - 2a^6b^4c^2p^2qz^2 + 4a^4b^6c^2p^2qz^2 - 2a^2b^8c^2p^2qz^2 + \\
& 2a^2b^4c^6p^2qz^2 - 2a^6b^6p^2qz^2 + 4a^4b^8p^2qz^2 - 2a^2b^{10}p^2qz^2 + 4a^4b^6c^2p^2qz^2 - \\
& 4a^2b^8c^2p^2qz^2 + 6a^2b^6c^4p^2qz^2 + 4a^4b^8p^3qz^2 - 4a^2b^{10}p^3qz^2 + 4a^2b^8c^2p^3qz^2 - \\
& 2a^8b^2c^2p^3r^2z^2 + 2a^4b^6c^2p^3r^2z^2 + 4a^6b^2c^4p^3r^2z^2 - 2a^4b^2c^6p^3r^2z^2 - 8a^8b^4p^2r^2z^2 + \\
& 4a^6b^6p^2r^2z^2 + 4a^4b^8p^2r^2z^2 + 16a^6b^4c^2p^2r^2z^2 + 4a^4b^6c^2p^2r^2z^2 - 8a^4b^4c^4p^2r^2z^2 + \\
& 16a^6b^6p^3r^2z^2 + 8a^4b^8p^3r^2z^2 - 8a^4b^6c^2p^3r^2z^2 - a^8b^2c^2pqr^2z^2 + a^6b^4c^2pqr^2z^2 + \\
& a^4b^6c^2pqr^2z^2 - a^2b^8c^2pqr^2z^2 + a^6b^2c^4pqr^2z^2 - 2a^4b^4c^4pqr^2z^2 + a^2b^6c^4pqr^2z^2 + \\
& a^4b^2c^6pqr^2z^2 + a^2b^4c^6pqr^2z^2 - a^2b^2c^8pqr^2z^2 - 4a^8b^4p^2qr^2z^2 + 6a^6b^6p^2qr^2z^2 - \\
& 2a^2b^{10}p^2qr^2z^2 + 4a^6b^4c^2p^2qr^2z^2 - 4a^4b^6c^2p^2qr^2z^2 + 4a^4b^4c^4p^2qr^2z^2 + 6a^2b^6c^4p^2qr^2z^2 - \\
& 4a^2b^4c^6p^2qr^2z^2 + 8a^6b^6p^3qr^2z^2 - 4a^4b^8p^3qr^2z^2 - 4a^2b^{10}p^3qr^2z^2 + 4a^4b^6c^2p^3qr^2z^2 + \\
& 8a^2b^8c^2p^3qr^2z^2 - 4a^2b^6c^4p^3qr^2z^2 - 4a^{10}b^2p^2r^2z^2 - 4a^8b^4p^2r^2z^2 + 8a^6b^6p^2r^2z^2 + \\
& 8a^8b^2c^2p^2r^2z^2 + 4a^6b^4c^2p^2r^2z^2 - 4a^6b^2c^4p^2r^2z^2 + 8a^8b^4p^3r^2z^2 + 16a^6b^6p^3r^2z^2 - \\
& 8a^6b^4c^2p^3r^2z^2 - 2a^{10}b^2p^2qr^2z^2 + 6a^6b^6p^2qr^2z^2 - 4a^4b^8p^2qr^2z^2 - 4a^6b^4c^2p^2qr^2z^2 + \\
& 4a^4b^6c^2p^2qr^2z^2 + 6a^6b^2c^4p^2qr^2z^2 + 4a^4b^4c^4p^2qr^2z^2 - 4a^4b^2c^6p^2qr^2z^2 + \\
& 4a^8b^4p^3qr^2z^2 + 4a^6b^6p^3qr^2z^2 - 8a^4b^8p^3qr^2z^2 + 4a^6b^4c^2p^3qr^2z^2 + 16a^4b^6c^2p^3qr^2z^2 - \\
& 8a^4b^4c^4p^3qr^2z^2 - a^8b^2c^2p^2q^2r^2z^2 + a^6b^4c^2p^2q^2r^2z^2 + a^4b^6c^2p^2q^2r^2z^2 - \\
& a^2b^8c^2p^2q^2r^2z^2 + a^6b^2c^4p^2q^2r^2z^2 - 2a^4b^4c^4p^2q^2r^2z^2 + a^2b^6c^4p^2q^2r^2z^2 + \\
& a^4b^2c^6p^2q^2r^2z^2 + a^2b^4c^6p^2q^2r^2z^2 - a^2b^2c^8p^2q^2r^2z^2 + 2a^6b^4c^2p^3q^2r^2z^2 - \\
& 2a^2b^8c^2p^3q^2r^2z^2 + 4a^2b^6c^4p^3q^2r^2z^2 - 2a^2b^4c^6p^3q^2r^2z^2 - 4a^{10}b^2p^2r^3z^2 + 4a^8b^4p^2r^3z^2 + \\
& 4a^8b^2c^2p^2r^3z^2 + 8a^8b^4p^3r^3z^2 - 2a^{10}b^2p^2qr^3z^2 + 4a^8b^4p^2qr^3z^2 - 2a^6b^6p^2qr^3z^2 - \\
& 4a^8b^2c^2p^2qr^3z^2 + 4a^6b^4c^2p^2qr^3z^2 + 6a^6b^2c^4p^2qr^3z^2 + 4a^8b^4p^3qr^3z^2 - 4a^6b^6p^3qr^3z^2 + \\
& 12a^6b^4c^2p^3qr^3z^2 - 2a^8b^2c^2p^2q^2r^3z^2 + 4a^6b^4c^2p^2q^2r^3z^2 - 2a^4b^6c^2p^2q^2r^3z^2 + \\
& 2a^4b^2c^6p^2q^2r^3z^2 + 4a^6b^4c^2p^3q^2r^3z^2 - 4a^4b^6c^2p^3q^2r^3z^2 + 4a^4b^4c^4p^3q^2r^3z^2
\end{aligned}$$

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Francisco Javier García Capitán, December 5 th, 2014