

a	a	b	c	e	ℓ	p
a	–	–	–	–	–	–
b	–	–	$\sqrt{b^2 + c^2}$	$\frac{b}{\sqrt{1 - e^2}}$	$\frac{b^2}{\ell}$	$b\sqrt{1 + \frac{b^2}{p^2}}$
c	–	$\sqrt{b^2 + c^2}$	–	$\frac{c}{e}$	$\frac{\ell + \sqrt{4c^2 + \ell^2}}{2}$	$\sqrt{cp + c^2}$
e	–	$\frac{b}{\sqrt{1 - e^2}}$	$\frac{c}{e}$	–	$\frac{\ell}{1 - e^2}$	$\frac{ep}{1 - e^2}$
ℓ	–	$\frac{b^2}{\ell}$	$\frac{\ell + \sqrt{4c^2 + \ell^2}}{2}$	$\frac{\ell}{1 - e^2}$	–	$\frac{\ell}{1 - \frac{\ell^2}{p^2}}$
p	–	$b\sqrt{1 + \frac{b^2}{p^2}}$	$\sqrt{cp + c^2}$	$\frac{ep}{1 - e^2}$	$\frac{\ell}{1 - \frac{\ell^2}{p^2}}$	–

b	a	b	c	e	ℓ	p
a	–	–	$\sqrt{a^2 - c^2}$	$a\sqrt{1 - e^2}$	$\sqrt{a\ell}$	$\sqrt{\frac{\sqrt{4a^2p^2 + p^4} - p^2}{2}}$
b	–	–	–	–	–	–
c	$\sqrt{a^2 - c^2}$	–	–	$\frac{c}{e}\sqrt{1 - e^2}$	$\sqrt{\frac{\sqrt{4c^2\ell^2 + \ell^4} + \ell^2}{2}}$	\sqrt{cp}
e	$a\sqrt{1 - e^2}$	–	$\frac{c}{e}\sqrt{1 - e^2}$	–	$\frac{\ell}{\sqrt{1 - e^2}}$	$\frac{ep}{\sqrt{1 - e^2}}$
ℓ	$\sqrt{a\ell}$	–	$\sqrt{\frac{\sqrt{4c^2\ell^2 + \ell^4} + \ell^2}{2}}$	$\frac{\ell}{\sqrt{1 - e^2}}$	–	$\frac{\ell}{1 - \frac{\ell^2}{p^2}}$
p	$\sqrt{\frac{\sqrt{4a^2p^2 + p^4} - p^2}{2}}$	–	\sqrt{cp}	$\frac{ep}{\sqrt{1 - e^2}}$	$\frac{\ell}{1 - \frac{\ell^2}{p^2}}$	–

c	a	b	c	e	ℓ	p
a	$-$	$\sqrt{a^2 - b^2}$	$-$	ae	$\sqrt{a^2 - a\ell}$	$\frac{-p + \sqrt{4a^2 + p^2}}{2}$
b	$\sqrt{a^2 - b^2}$	$-$	$-$	$\frac{be}{\sqrt{1 - e^2}}$	$b\sqrt{\frac{b^2}{\ell^2} - 1}$	$\frac{b^2}{p}$
c	$-$	$-$	$-$	$-$	$-$	$-$
e	ae	$\frac{be}{\sqrt{1 - e^2}}$	$-$	$-$	$\frac{e\ell}{1 - e^2}$	$\frac{pe^2}{1 - e^2}$
ℓ	$\sqrt{a^2 - a\ell}$	$b\sqrt{\frac{b^2}{\ell^2} - 1}$	$-$	$\frac{e\ell}{1 - e^2}$	$-$	$\frac{p}{\frac{p^2}{\ell^2} - 1}$
p	$\frac{-p + \sqrt{4a^2 + p^2}}{2}$	$\frac{b^2}{p}$	$-$	$\frac{pe^2}{1 - e^2}$	$\frac{p}{\frac{p^2}{\ell^2} - 1}$	$-$

e	a	b	c	e	ℓ	p
a	$-$	$\sqrt{1 - \frac{b^2}{a^2}}$	$\frac{c}{a}$	$-$	$\sqrt{1 - \frac{\ell}{a}}$	$\frac{-p + \sqrt{4a^2 + p^2}}{2a}$
b	$\sqrt{1 - \frac{b^2}{a^2}}$	$-$	$\frac{c}{\sqrt{b^2 + c^2}}$	$-$	$\sqrt{1 - \frac{\ell^2}{b^2}}$	$\frac{b}{\sqrt{b^2 + p^2}}$
c	$\frac{c}{a}$	$\frac{c}{\sqrt{b^2 + c^2}}$	$-$	$-$	$\frac{-\ell + \sqrt{4c^2 + \ell^2}}{2c}$	$\sqrt{\frac{c}{c + p}}$
e	$-$	$-$	$-$	$-$	$-$	$-$
ℓ	$\sqrt{1 - \frac{\ell}{a}}$	$\sqrt{1 - \frac{\ell^2}{b^2}}$	$\frac{-\ell + \sqrt{4c^2 + \ell^2}}{2c}$	$-$	$-$	$\frac{\ell}{p}$
p	$\frac{-p + \sqrt{4a^2 + p^2}}{2a}$	$\frac{b}{\sqrt{b^2 + p^2}}$	$\sqrt{\frac{c}{c + p}}$	$-$	$\frac{\ell}{p}$	$-$

ℓ	a	b	c	e	ℓ	p
a	–	$\frac{b^2}{a}$	$\frac{a^2 - c^2}{a}$	$a(1 - e^2)$	–	$\frac{-p^2 + \sqrt{4a^2p^2 + p^4}}{2a}$
b	$\frac{b^2}{a}$	–	$\frac{b^2}{\sqrt{b^2 + c^2}}$	$b\sqrt{1 - e^2}$	–	$\frac{bp}{\sqrt{b^2 + p^2}}$
c	$\frac{a^2 - c^2}{a}$	$\frac{b^2}{\sqrt{b^2 + c^2}}$	–	$\frac{c}{e}(1 - e^2)$	–	$\sqrt{\frac{cp^2}{c + p}}$
e	$a(1 - e^2)$	$b\sqrt{1 - e^2}$	$\frac{c}{e}(1 - e^2)$	–	–	ep
ℓ	–	–	–	–	–	–
p	$\frac{-p^2 + \sqrt{4a^2p^2 + p^4}}{2a}$	$\frac{bp}{\sqrt{b^2 + p^2}}$	$\sqrt{\frac{cp^2}{c + p}}$	ep	–	–

p	a	b	c	e	ℓ	p
a	—	$\frac{b^2}{\sqrt{a^2 - b^2}}$	$\frac{a^2 - c^2}{c}$	$\frac{a}{e}(1 - e^2)$	$\sqrt{\frac{a\ell^2}{a - \ell}}$	—
b	$\frac{b^2}{\sqrt{a^2 - b^2}}$	—	$\frac{b^2}{c}$	$\frac{b}{e}\sqrt{1 - e^2}$	$\frac{b\ell}{\sqrt{b^2 - \ell^2}}$	—
c	$\frac{a^2 - c^2}{c}$	$\frac{b^2}{c}$	—	$\frac{c}{e^2}(1 - e^2)$	$\frac{\ell^2 + \sqrt{4c^2\ell^2 + \ell^4}}{2c}$	—
e	$\frac{a}{e}(1 - e^2)$	$\frac{b}{e}\sqrt{1 - e^2}$	$\frac{c}{e^2}(1 - e^2)$	—	$\frac{\ell}{e}$	—
ℓ	$\sqrt{\frac{a\ell^2}{a - \ell}}$	$\frac{b\ell}{\sqrt{b^2 - \ell^2}}$	$\frac{\ell^2 + \sqrt{4c^2\ell^2 + \ell^4}}{2c}$	$\frac{\ell}{e}$	—	—
p	—	—	—	—	—	—