Poliedres arquimedians

Nom	**Cares**	**Vèrtexs**	**Arestes**	**Àrea**	**Volum**	**R radi esfera Circumscrita**	**r radi esfera tangent arestes**	**r radi esfera Inscrita**
Tetraedre truncat	8=4T + 4H	12	18	12’1243	2’7106	$R=\frac{a\sqrt{22}}{4}$	$\rho=\frac{3a\sqrt{2}}{4}$	$r=\frac{9a\sqrt{22}}{44}$
Cubooctaedre	14=8T+6Q	12	24	9’4641	2’3570	$R=a$	$\rho=\frac{a\sqrt{3}}{2}$	$r=\frac{3a}{4}$
Cub truncat	14=8T + 6 O	24	36	32’4346	13’5996	$R=\frac{a\sqrt{7+4\sqrt{2}}}{2}$	$\rho=\frac{a\left(2+\sqrt{2}\right)}{2}$	$r=\frac{a\left(5+2\sqrt{2}\right)\sqrt{7+4\sqrt{2}}}{17}$
Octaedre truncat	14=8H + 6Q	24	36	26’7846	11’3137	$R=\frac{a\sqrt{10}}{2}$	$\rho=\frac{3a}{2}$	$r=\frac{9a\sqrt{10}}{20}$
Rombicuboctaedre	26=8T + 18Q	24	48	21’4641	8’7140	$R=\frac{a\sqrt{5+2\sqrt{2}}}{2}$	$\rho=\frac{a\sqrt{4+2\sqrt{2}}}{2}$	$r=\frac{a\left(6+\sqrt{2}\right)\sqrt{5+\sqrt{2}}}{17}$
Gran Rombicuboctaedre	26=12Q+8H+6 O	48	72	61’7551	41’7990	$R=\frac{a\sqrt{13+6\sqrt{2}}}{2}$	$\rho=\frac{a\sqrt{12+6\sqrt{2}}}{2}$	$r=\frac{3a\left(14+\sqrt{2}\right)\sqrt{13+6\sqrt{2}}}{97}$
Cub simus	38=32T+6Q	24	60	19’8564	7’8895			
Icosidodecaedre	32=20T + 12P	30	60	29’3060	13’8355	$R=\frac{a\left(1+\sqrt{5}\right)}{2}$	$\rho=\frac{a\sqrt{5+2\sqrt{5}}}{2}$	$r=\frac{a\left(5+3\sqrt{5}\right)}{8}$
Dodecaedre truncat	32=20T + 12 D	60	90	100’9907	85’0396	$R=\frac{a\sqrt{74+30\sqrt{5}}}{4}$	$\rho=\frac{a\left(5+3\sqrt{5}\right)}{4}$	$r=\frac{5a\left(17\sqrt{2}+3\sqrt{10}\right)\sqrt{37+15\sqrt{5}}}{488}$
Icosaedre truncat	32=12P + 20H	60	90	72’6072	55’2877	$R=\frac{a\sqrt{58+18\sqrt{5}}}{4}$	$\rho=\frac{3a\left(1+\sqrt{5}\right)}{4}$	$r=\frac{9a\left(21+\sqrt{5}\right)\sqrt{58+18\sqrt{5}}}{872}$
Rombicosidodecaedre	62=20T+12P+30Q	60	120	59’3060	41’6153	$R=\frac{a\sqrt{11+4\sqrt{5}}}{2}$	$\rho=\frac{a\sqrt{10+4\sqrt{5}}}{2}$	$r=\frac{a\left(15+2\sqrt{5}\right)\sqrt{11+4\sqrt{5}}}{41}$
Gran Rombicosidodecaedre	62=30Q+20H+12 O	120	180	174’2920	206’8034	$R=\frac{a\sqrt{31+12\sqrt{5}}}{2}$	$\rho=\frac{a\sqrt{31+12\sqrt{5}}}{2}$	$r=\frac{a\left(105+6\sqrt{5}\right)\sqrt{31+12\sqrt{5}}}{241}$
Dodecaedre simus	92=80T + 12P	60	150	55’2867	37’6166			

Propietat dels radis de les esferes circumscrita, inscrita i tangent a les arestes del poliedre: $R\cdot r=\rho^2$

T triangles equilàters. Q quadrats. P pentàgons regulars. H hexàgons regulars. O octògons regulars. D decàgons regulars

Nota: Les superfícies i els volums són aproximats, l’aresta és 1.