


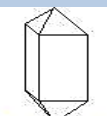
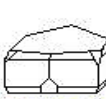
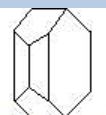


Mineral Crystal Systems Chart

System	Number of crystallographic axes	Number of planes of symmetry	Number of axes of symmetry	Center of symmetry	Refractivity	Shapes	Gems
Cubic	3 of equal length at right angles to each other	9	13 axes (3 tetragonal, 4 trigonal, 6 digonal)	yes	singly refractive	 Cube  Cube and Octahedron	diamond, garnet, spinel
Tetragonal	3 at right angles to each other, 2 of equal length, one longer or shorter	5	5 axes (4 tetragonal, 1 trigonal)	yes	doubly refractive	 Tetragonal: Prism with pyramid and base  Tetragonal: Prism with pyramidal termination	rutile, idocrase, zircon
Hexagonal	4, 3 of equal length, intersecting at 60 degree angles, the other 3 are longer or shorter and perpendicular to the first 3	7	7 axes (1 hexagonal, 6 digonal)	yes	doubly refractive	6-sided prism terminating in a single face	apatite, aquamarine, emerald
Trigonal	4, 3 of equal length, intersecting at 60 degree angles, the other 3 are longer or shorter and perpendicular to the first 3	3	4 axes (1 trigonal, 2 digonal)	yes	doubly refractive	 Trigonal: prism with pyramids	quartz, ruby, sapphire, tourmaline
Orthorhombic	3 of different lengths at right angles to each other	3	3 axes (3 digonal)	yes	doubly refractive	-	chrysoberyl, peridot, topaz
Monoclinic	3 of different lengths, 2 at right angles to each other, the third at a different angle	1	1 axis (1 digonal)	yes	doubly refractive	 Monoclinic	brazilianite, kunzite, moonstone, jade (nephrite, jadeite), malachite, sphene
Triclinic	3 of different lengths, all at different angles	none	none	yes	doubly refractive	-	amazonite, axinite, labradorite, rhodonite, turquoise

(Source: <http://www.enchantedlearning.com/geology/rocks/pages/crystalsystems.shtml>)