

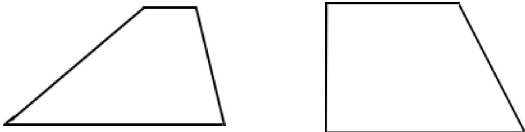
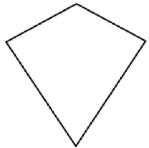







Quadrilaterals represented as abstractions from abstractions (fitting discussion in *Introduction to Objectivist Epistemology*, chapter 3)

<p><b>QUADRILATERAL</b> Four lines connected at angles</p> 		
<p><b>CONVEX QUADRILATERAL</b> above + both diagonals contained within the shape</p>		
<p><b>TRAPEZOID</b> above + at least one pair of parallel lines</p>		<p><b>KITE</b> above + two pairs of adjacent sides of equal length (which forces symmetry onto shape)</p> 
<p><b>PARALLELOGRAM</b> above + two pairs of parallel lines (which forces opposite angles to be equal)</p> 	<p><b>ISOSCELES TRAPEZOID</b> above + at least one pair of symmetrical sides</p> 	<p>It should be remembered that instances within each category of shape will vary in particulars: the measures of sides can vary in each category, and (in most categories) angles can vary as well. Most squares will differ from other squares only in size (color, pattern and other aspects are irrelevant in the present context); quadrilaterals will vary in many ways: relative sizes of opposite sides and angles, whether the quadrilateral is concave or has lines which cross each other, et cetera. A person might want to think through examples which fit each definition; one's mind might envision animation of a shape transforming into variants which keep within the definition.</p>
<p><b>RECTANGLE</b> both of above + all 4 angles equal (90°)</p> 	<p><b>RHOMBUS (a.k.a. DIAMOND)</b> all of above (including kite) + all 4 sides equal</p> 	
<p><b>SQUARE</b> all of above; <i>PUT ANOTHER WAY:</i> parallelogram + all 4 angles equal + all 4 sides equal</p> 		

A math adage applicable here: “All squares are rectangles, but not all rectangles are squares.” Likewise, “All squares are quadrilaterals, but not all quadrilaterals are squares.” Every shape below any given level is also an instance of that higher level; the higher the level, the wider the integration. Going the other way: as tables are perceptual objects but furniture is not, so too squares are more directly perceivable than quadrilaterals.