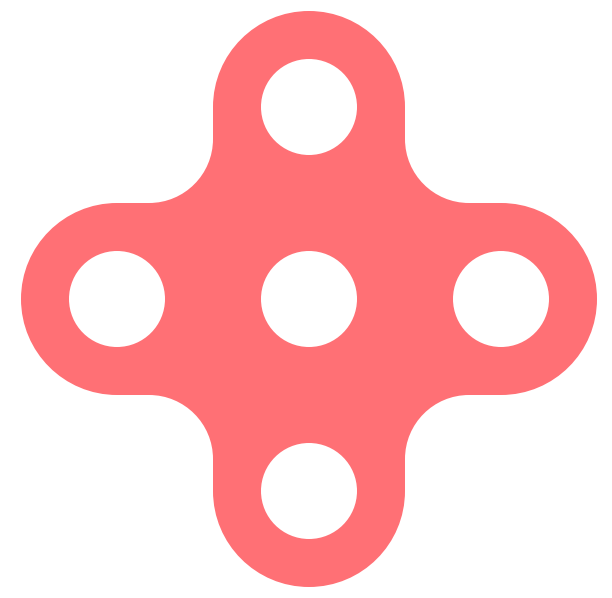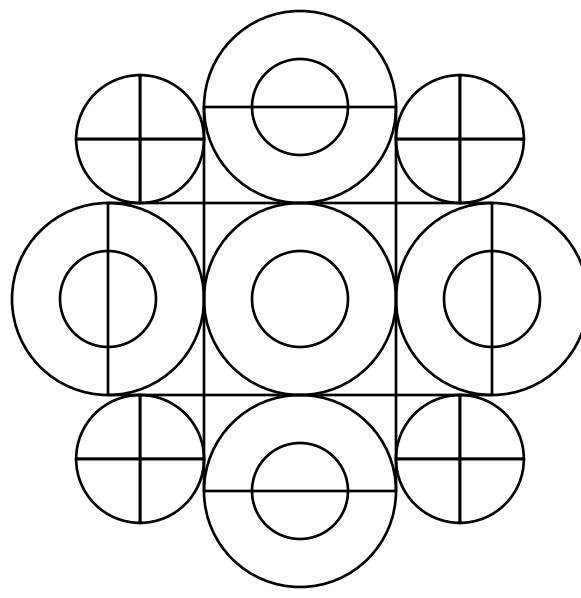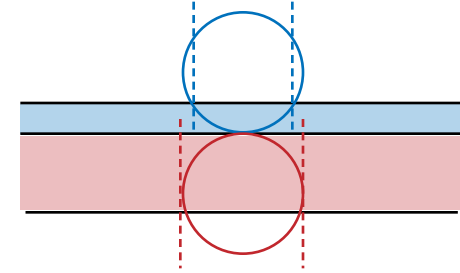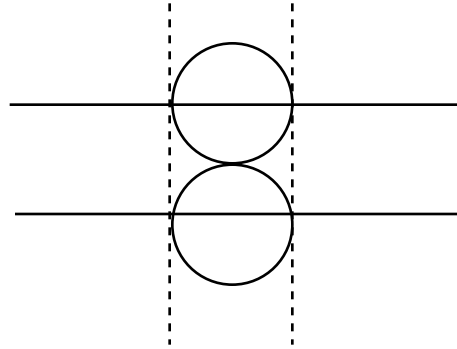square unit
= 1inch

in this case, red R = 0.5"
blue R = 0.943 * 0.5"

stroke thickness =
red R - blue R = 0.057 * 0.5" = 0.0285" = 2.502px (72dpi)

diameter of the hole 0.5"
= thickness of the part

2/3 of the ball above; 1/3 below

blue R = 2/3 * sqrt(2) * red R
 = 0.943 * red R

lasercut toolpath is approx
10mil = 0.01"

lasercutter toolpath not accounted for

Width and Height of the parts = 6 x ball diameter	Thin part (blue)	Thick part (red)	overlap test
big ball diameter = 3/16" W = 18/16" = "1-in part" (1.125") acrylic, clear, 250 stock count acrylic sheets thinner = 1/16" thicker = 1/8"			
medium ball diameter = 3/32" W = 18/32" = "half-inch part" (0.5625") nylon, white, 100 stock count nylon sheets thinner = 1/32" thicker = 1/16"			
small ball diameter = 3/64" W = 18/64" = "1/4-inch part" (0.28125") steel, silver, 400 stock count Blue shim stock steel thinner: 0.015" = 1/3 of the ball diameter thicker: 0.032" = 2/3 of the ball diameter			