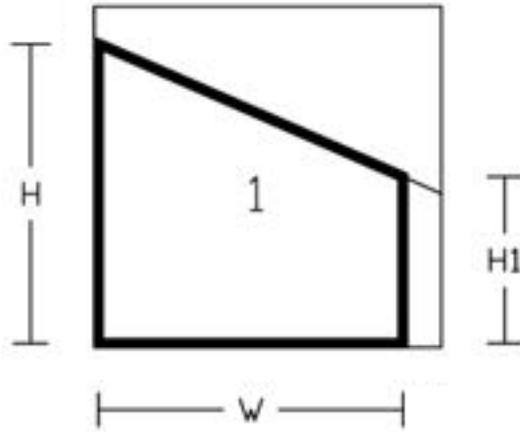


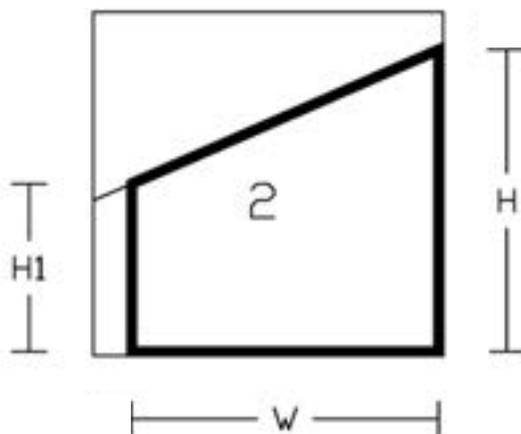
# SHAPE CATALOG

UPDATED FEBRUARY 2026



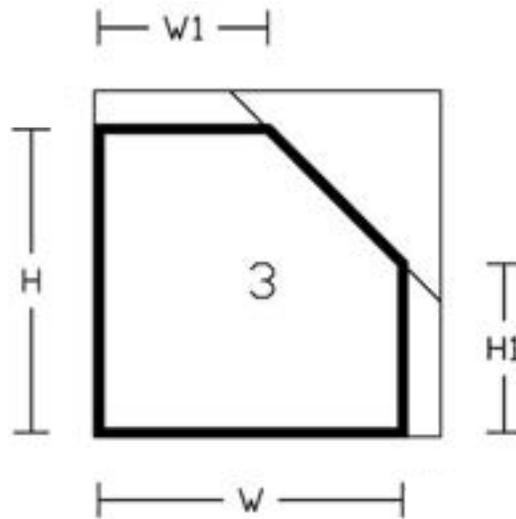


$$H1 < H$$
$$H1 > 0$$
$$W > 0$$

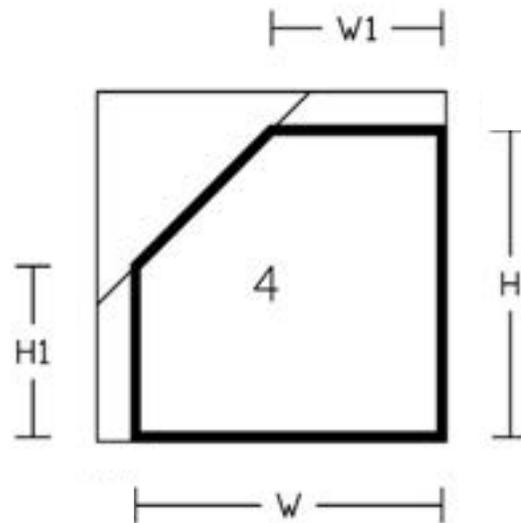


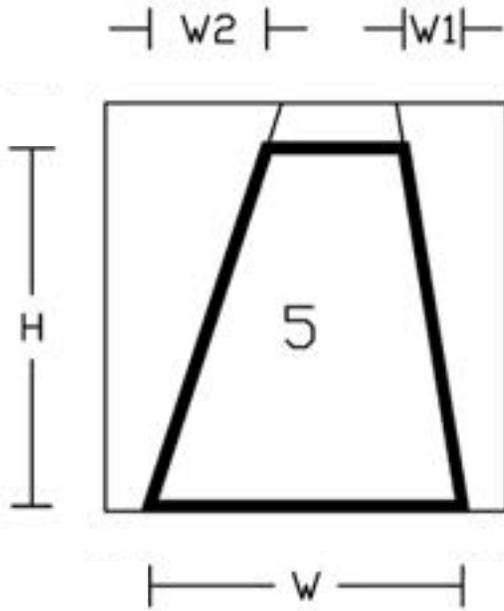
$$H1 < H$$
$$H1 > 0$$
$$W > 0$$

$H1 < H$   
 $W1 < W$   
 $H1 > 0$   
 $W1 > 0$



$H1 < H$   
 $H1 > 0$   
 $W1 > 0$



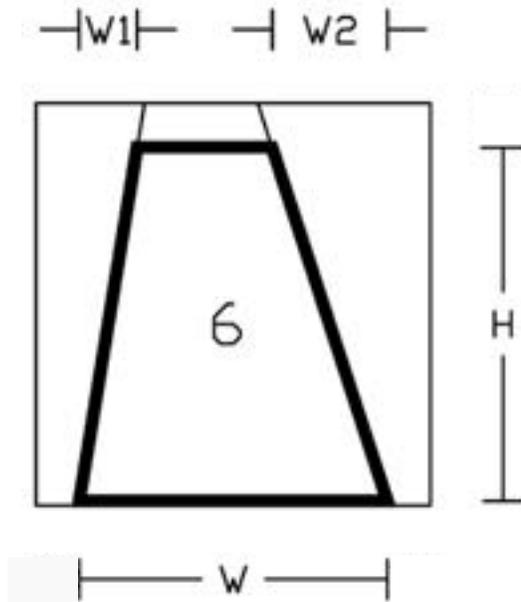


$$w_2 + w_1 \leq w$$

$$H > 0$$

$$w_1 > 0$$

$$w_2 > 0$$



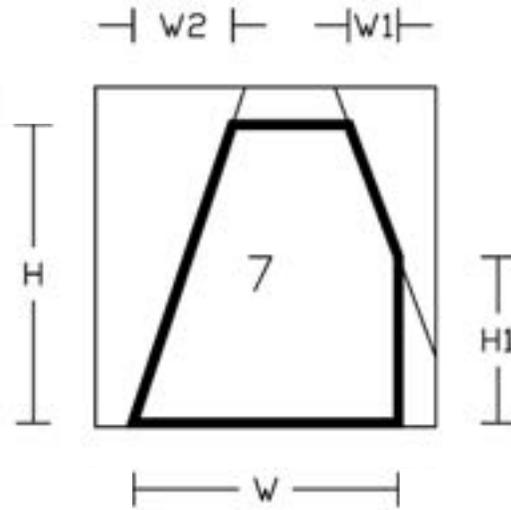
$$w_2 + w_1 \leq w$$

$$H > 0$$

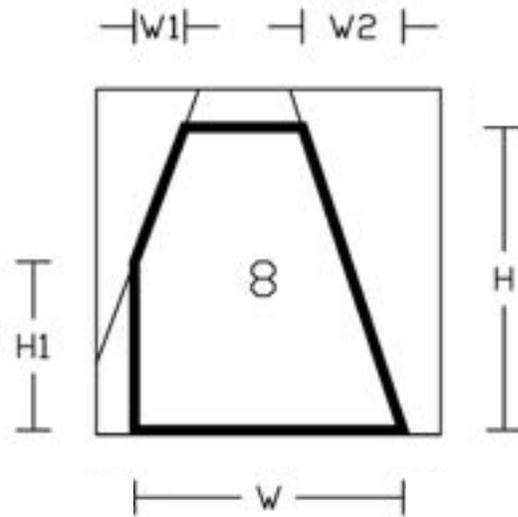
$$w_1 > 0$$

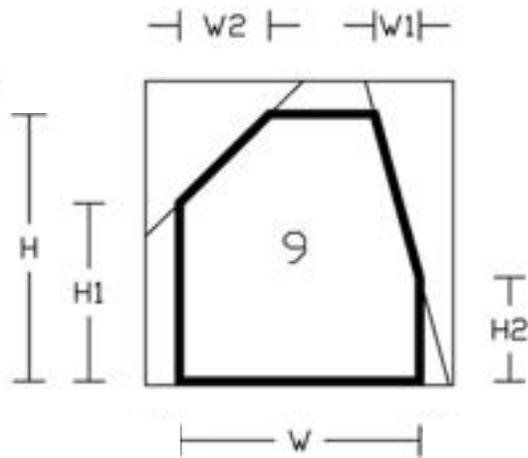
$$w_2 > 0$$

$W2 + W1 \leq W$   
 $H1 < H$   
 $H1 > 0$   
 $W1 > 0$   
 $W2 > 0$

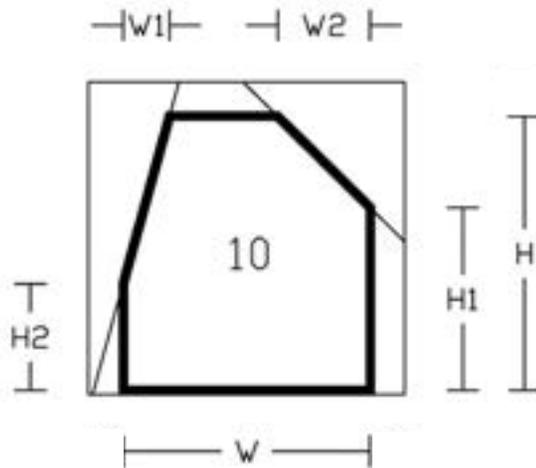


$W2 + W1 \leq W$   
 $H1 < H$   
 $H1 > 0$   
 $W1 > 0$   
 $W2 > 0$



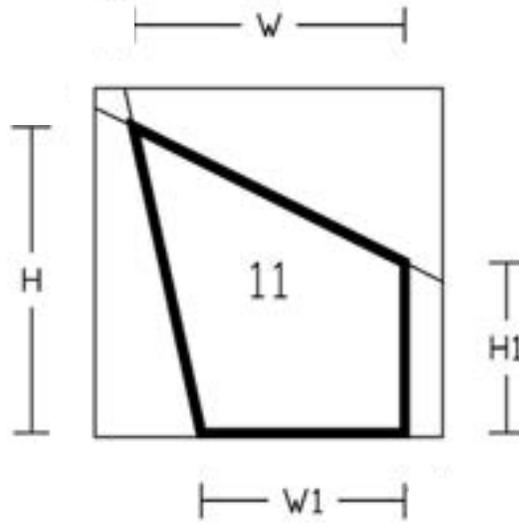


$$\begin{aligned}
 H2 &\leq H1 < H \\
 W2 + W1 &\leq W \\
 H2 &> 0 \\
 W1 &> 0 \\
 W2 &> 0
 \end{aligned}$$

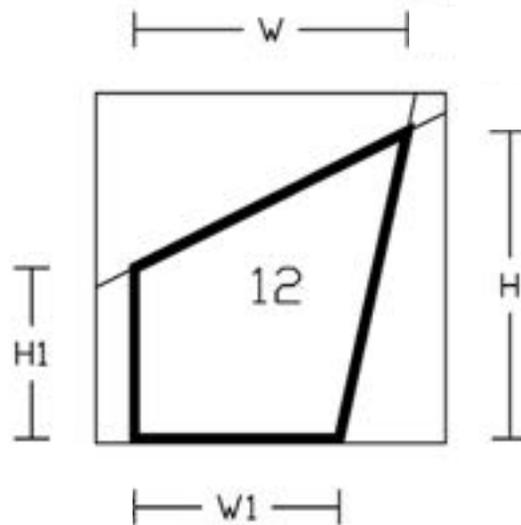


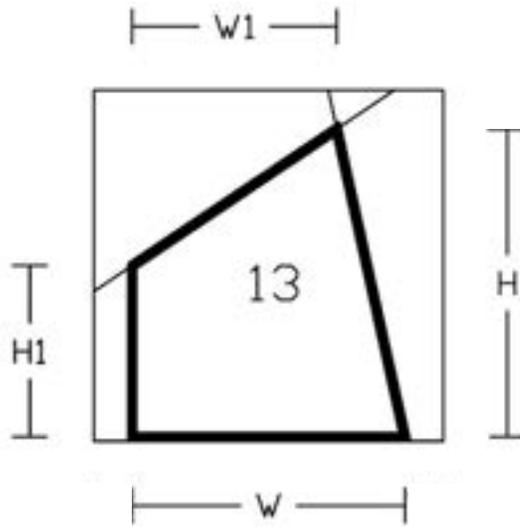
$$\begin{aligned}
 H2 &\leq H1 < H \\
 W2 + W1 &\leq W \\
 H2 &> 0 \\
 W1 &> 0 \\
 W2 &> 0
 \end{aligned}$$

$H1 < H$   
 $W1 < W$   
 $W1 > 0$   
 $H1 > 0$

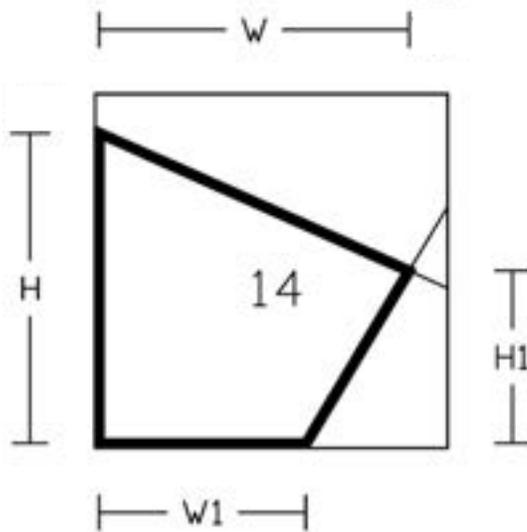


$H1 < H$   
 $W1 < W$   
 $W1 > 0$   
 $H1 > 0$



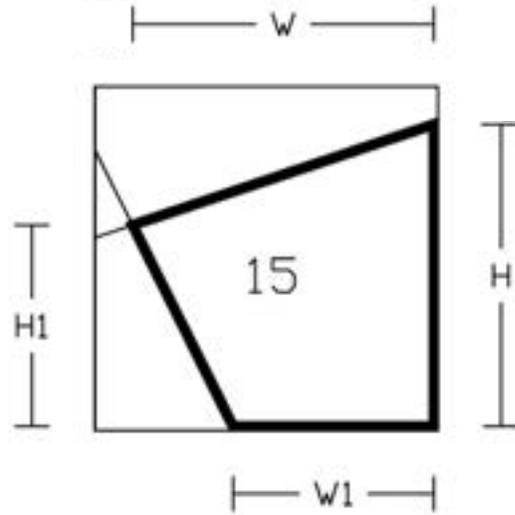


$H1 < H$   
 $w1 < w$   
 $w1 > 0$   
 $H1 > 0$

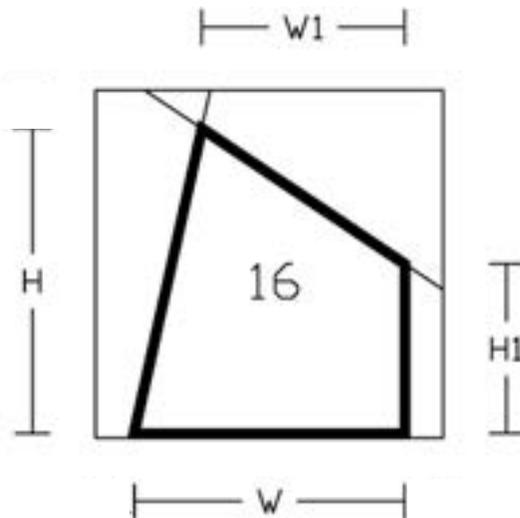


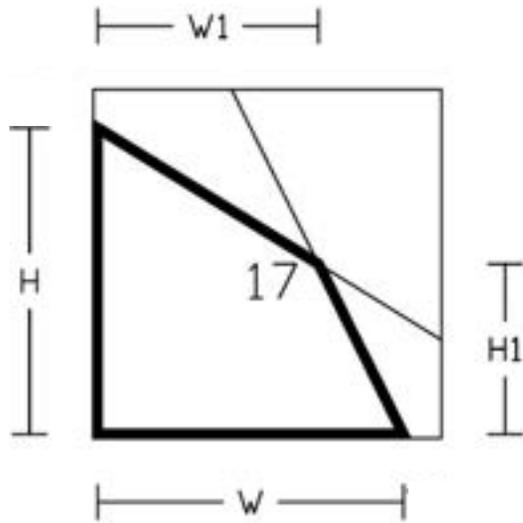
$H1 < H$   
 $w1 < w$   
 $w1 > 0$   
 $H1 > 0$

$H1 < H$   
 $W1 < W$   
 $W1 > 0$   
 $H1 > 0$

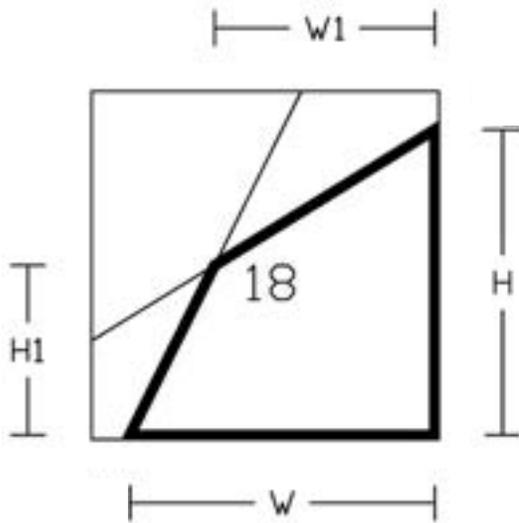


$H1 < H$   
 $W1 < W$   
 $W1 > 0$   
 $H1 > 0$



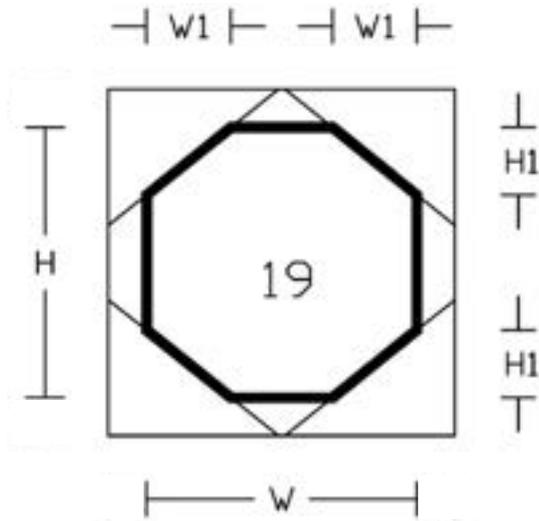


$H1 < H$   
 $w1 < w$   
 $w1 > 0$   
 $H1 > 0$



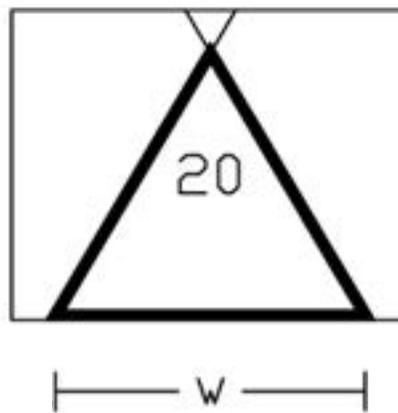
$H1 < H$   
 $w1 < w$   
 $w1 > 0$   
 $H1 > 0$

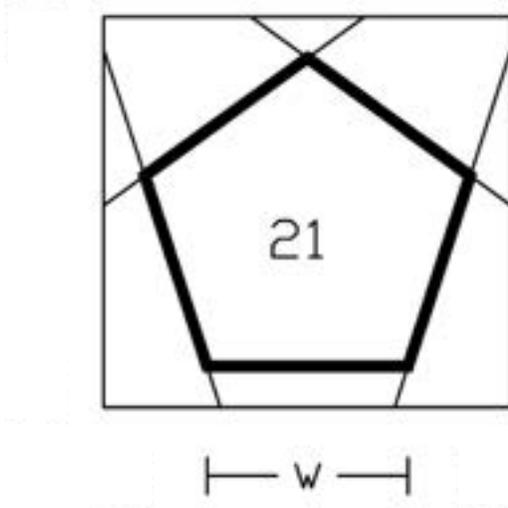
$2 * H1 < W$   
 $2 * W1 < W$   
 $H1 > 0$   
 $W1 > 0$



Equilateral Triangle

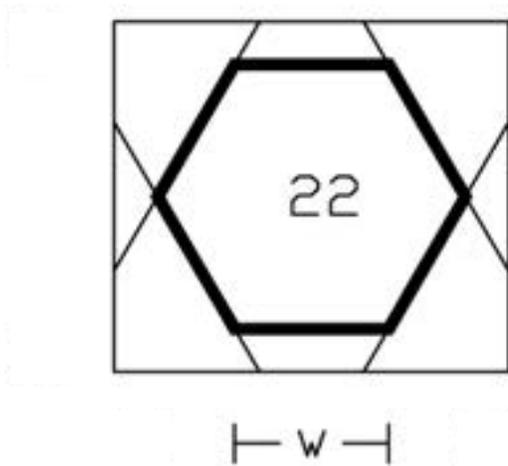
$W > 0$





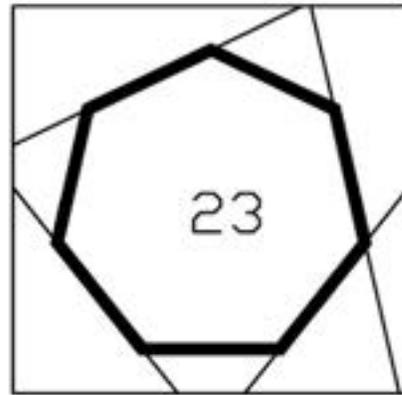
$W > 0$

Regular Equilateral Hexagon



$W > 0$

$W > 0$



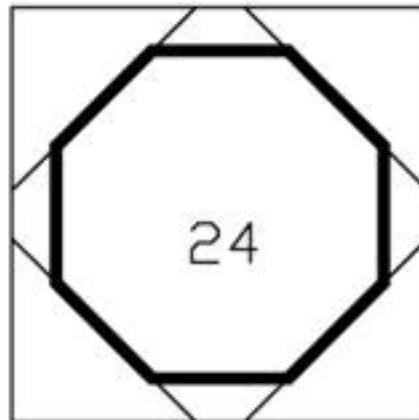
— W —

---

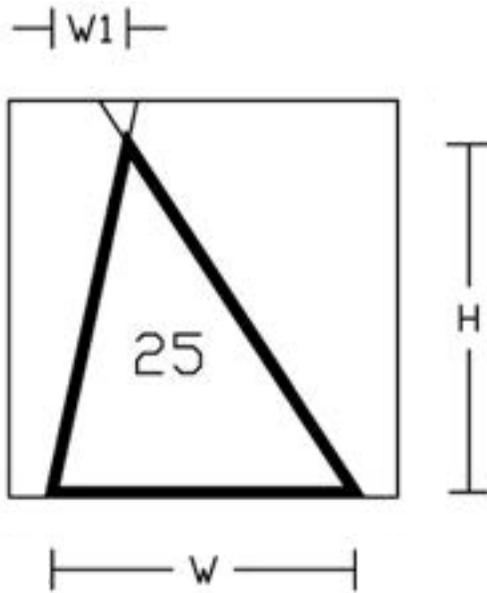
Regular Equilateral Octagon

$W > 0$

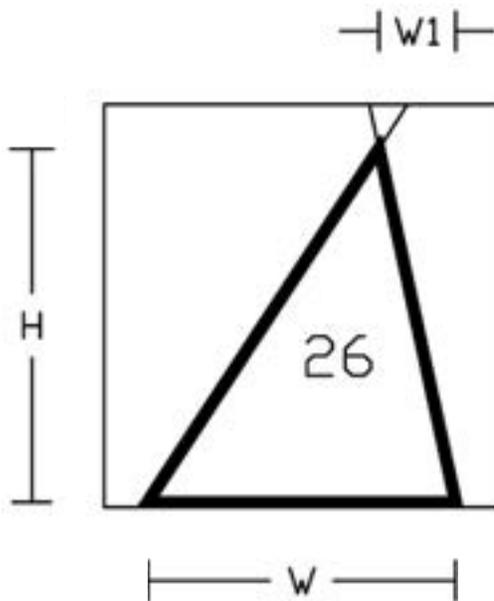
Can work backwards if you have WxH and can confirm all sides are equal.



— W —

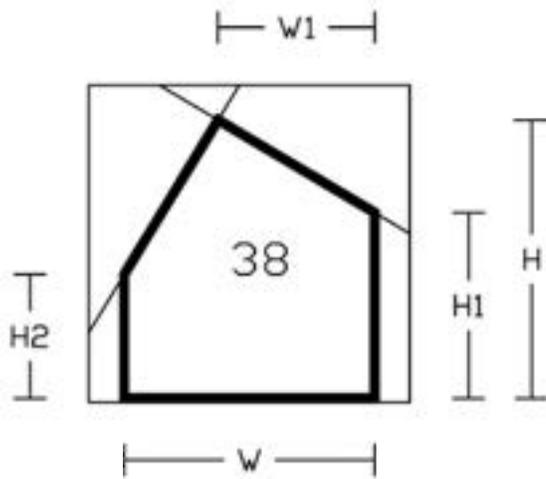
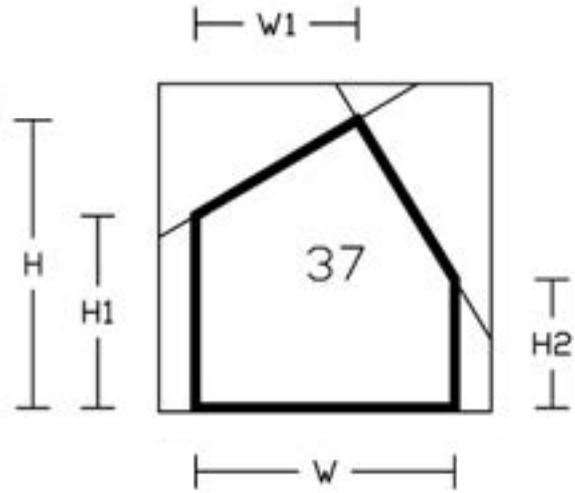


$H > 0$   
 $w > 0$   
 $w1 > 0$

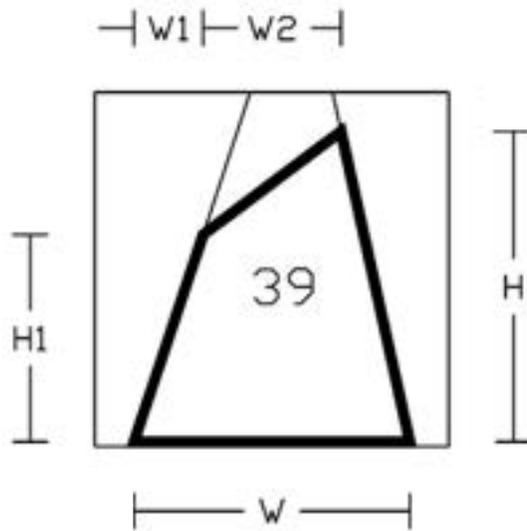


$H > 0$   
 $w > 0$   
 $w1 > 0$

$H2 \leq H1 < H$   
 $W1 < W$   
 $W > 0$   
 $W1 > 0$   
 $H2 > 0$



$H2 \leq H1 < H$   
 $W1 < W$   
 $W > 0$   
 $W1 > 0$   
 $H2 > 0$



$$H_1 < H$$

$$w_1 + w_2 < w$$

$$w_1 > 0$$

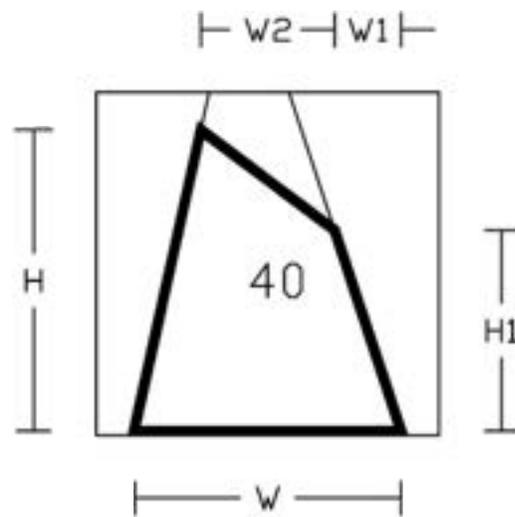
$$w_2 > 0$$

$$H_1 < H$$

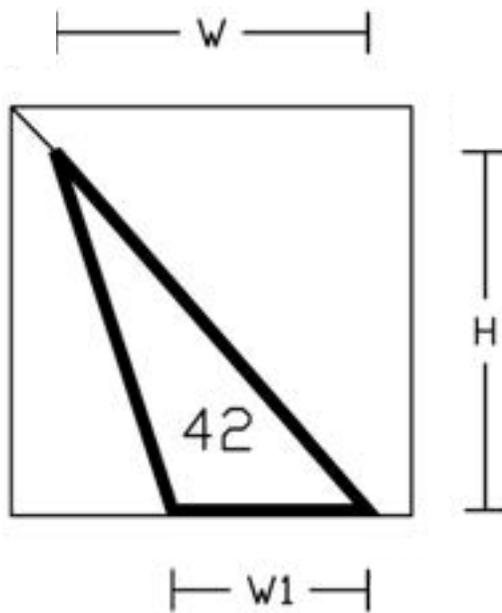
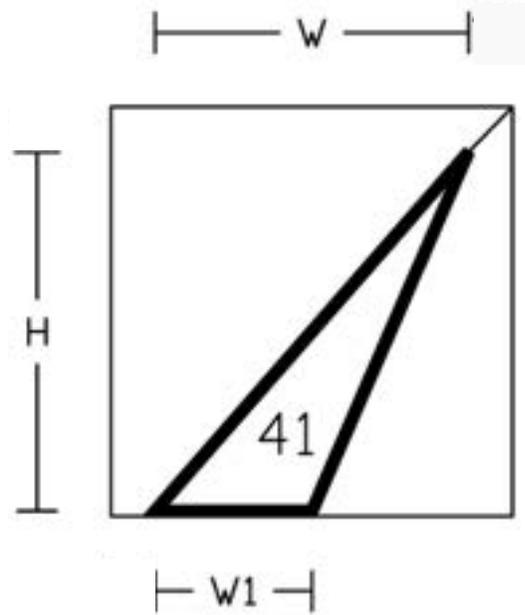
$$w_1 + w_2 < w$$

$$w_1 > 0$$

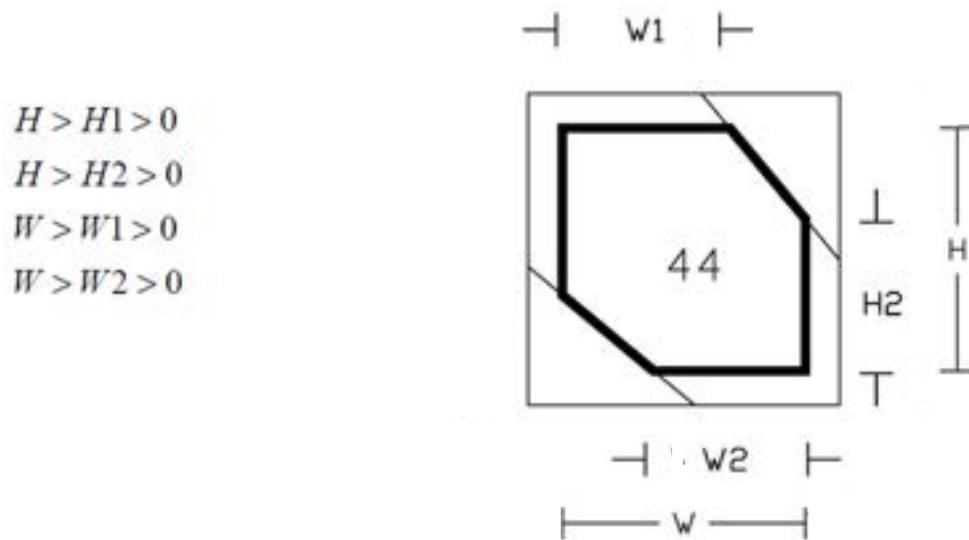
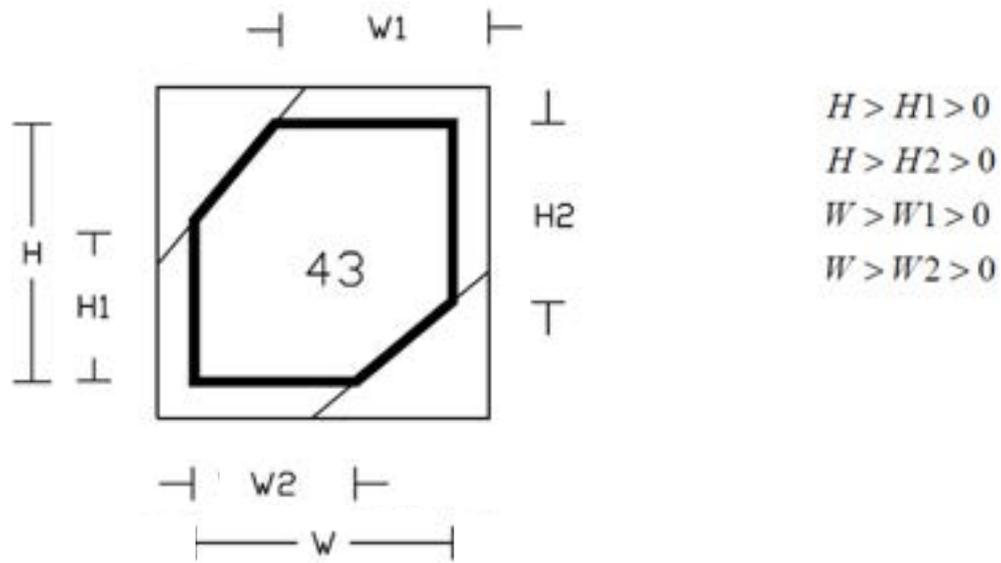
$$w_2 > 0$$



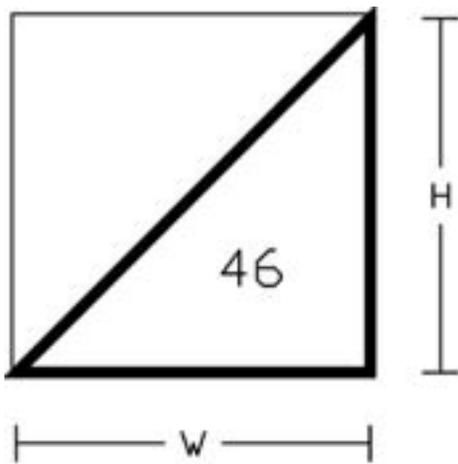
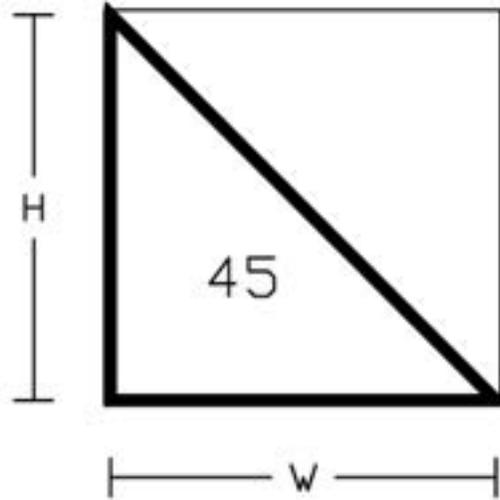
$$W > W1 > 0$$
$$H > 0$$



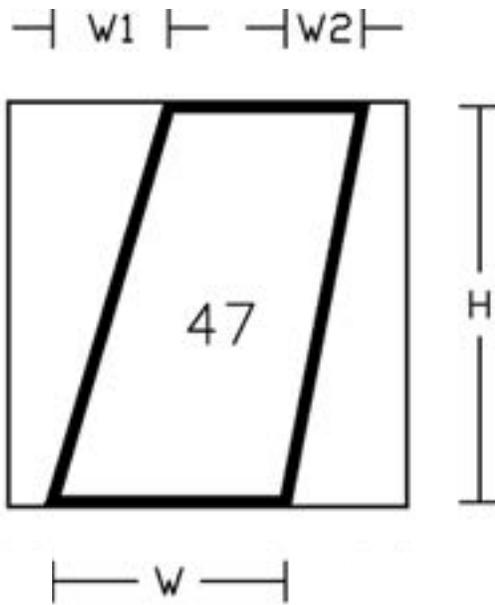
$$W > W1 > 0$$
$$H > 0$$



$W > 0$   
 $H > 0$

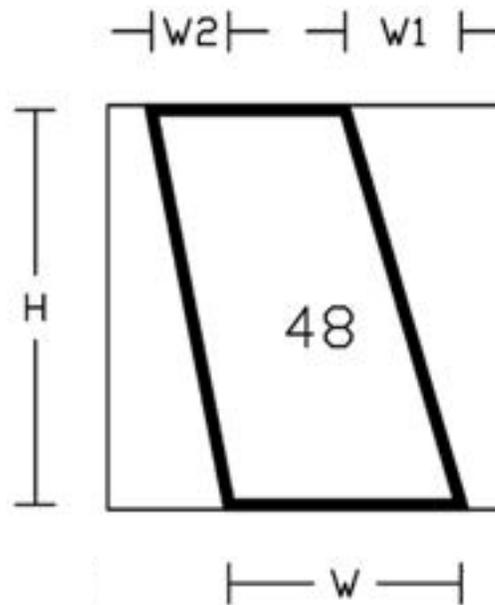


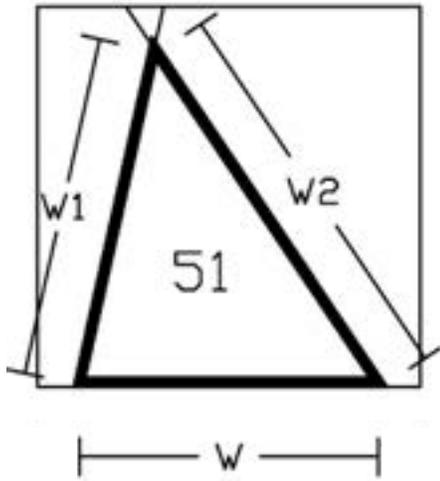
$W > 0$   
 $H > 0$



$$\begin{aligned}
 W &> 0 \\
 H &> 0 \\
 W_1 &\geq 0 \\
 W_2 &\geq 0 \\
 W + W_2 &> W_1
 \end{aligned}$$

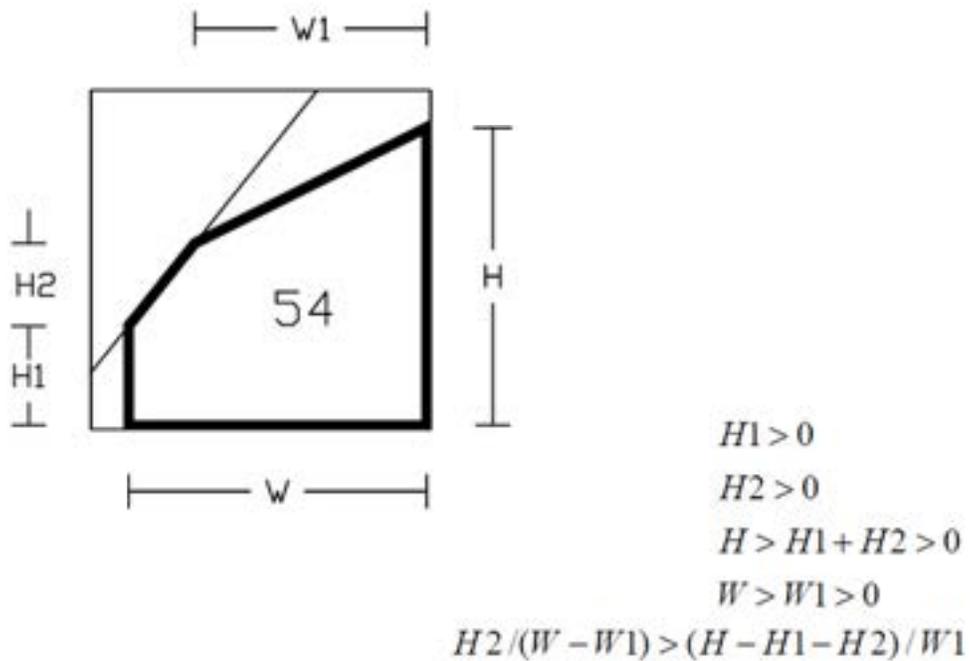
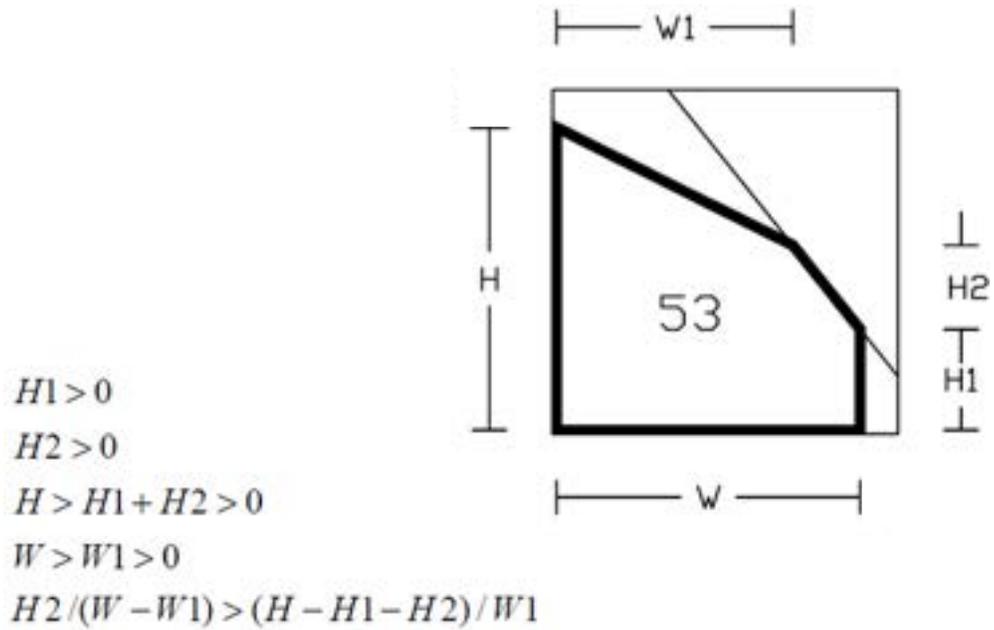
$$\begin{aligned}
 W &> 0 \\
 H &> 0 \\
 W_1 &\geq 0 \\
 W_2 &\geq 0 \\
 W + W_2 &> W_1
 \end{aligned}$$

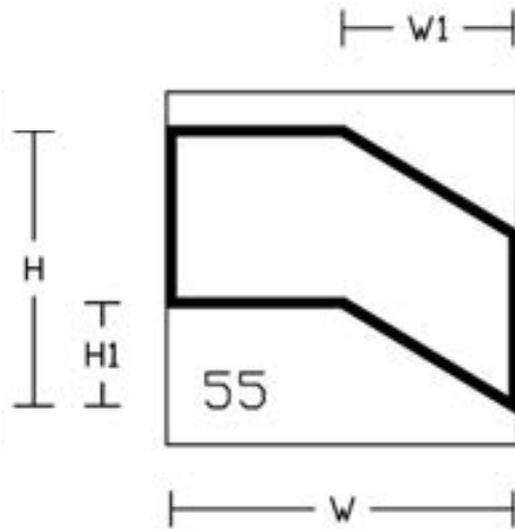




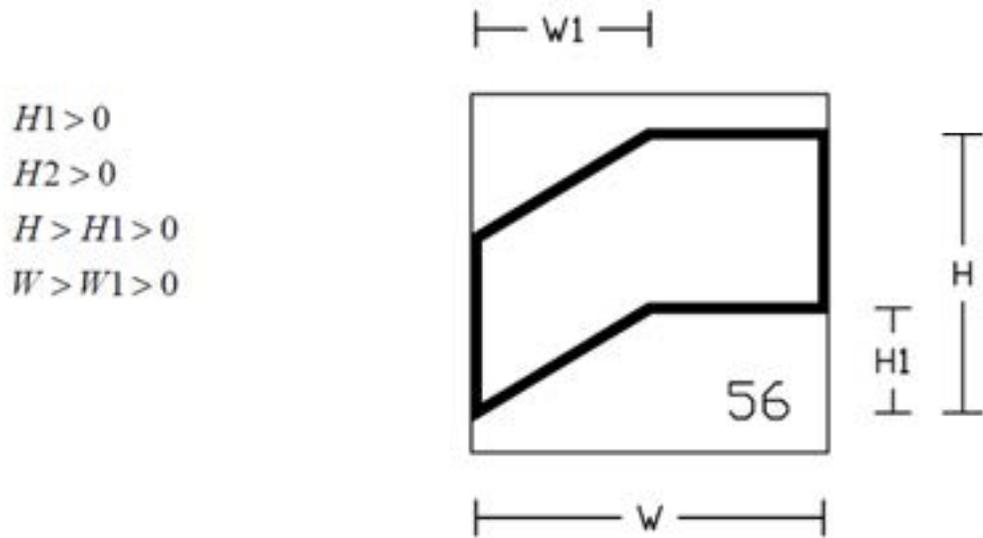
$$w_1 \leq \sqrt{w^2 + w_2^2}$$

$$w_2 \leq \sqrt{w^2 + w_1^2}$$



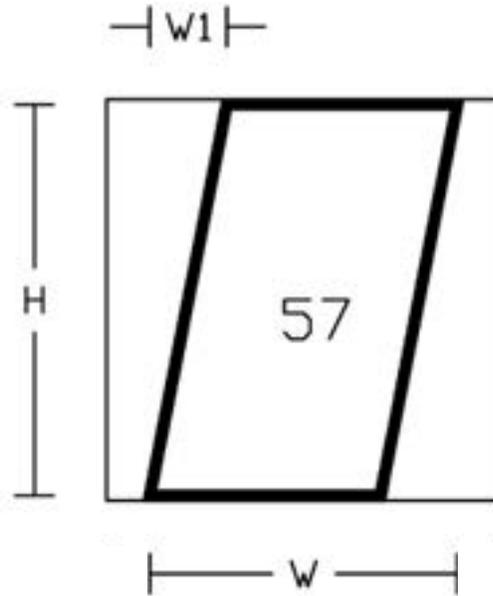


$H1 > 0$   
 $H2 > 0$   
 $H > H1 > 0$   
 $W > W1 > 0$

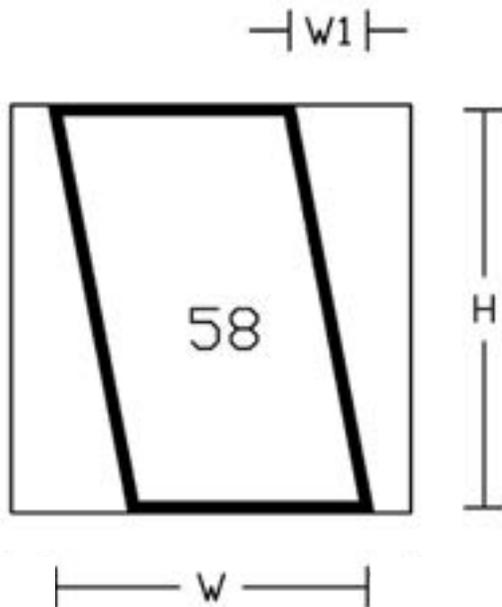


$H1 > 0$   
 $H2 > 0$   
 $H > H1 > 0$   
 $W > W1 > 0$

$W1 > 0$



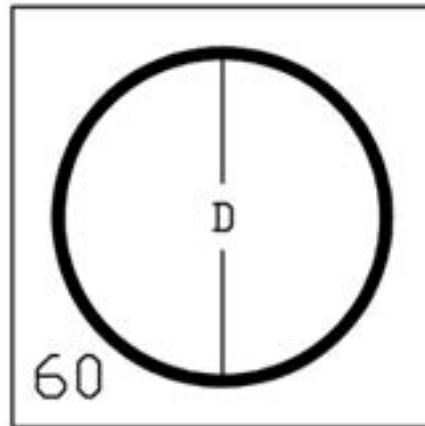
These shapes assume that top and bottom are equal.



$W1 > 0$

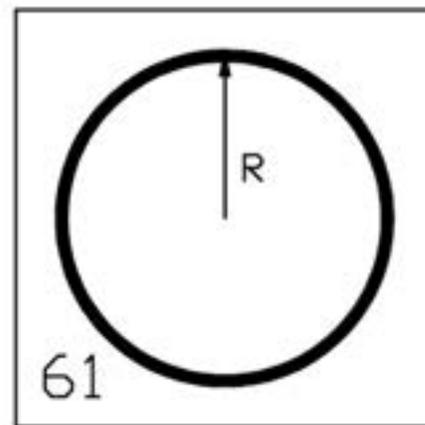
$$D > 0$$

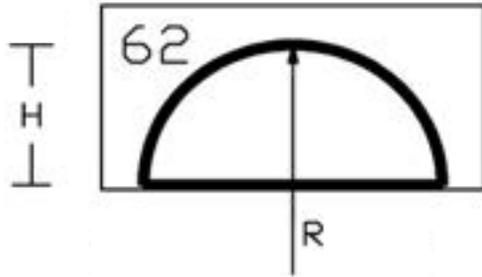
D = Diameter



$$R > 0$$

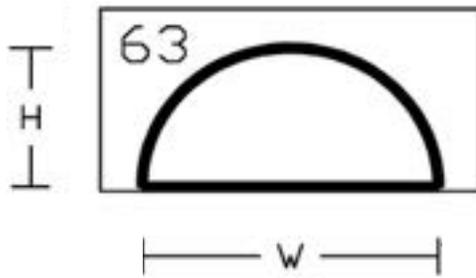
R = Radius





$$H \leq R$$

$$H > 0$$

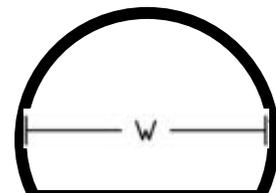
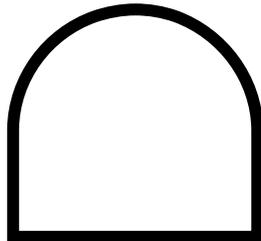
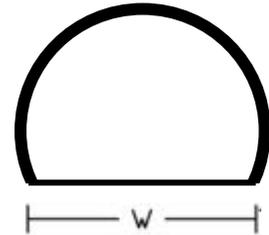
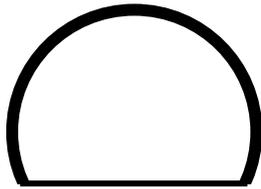


$$2 * H \leq W$$

$$H > 0$$

If height is greater than radius, the shape WILL bubble out. Not just get legs at the base.

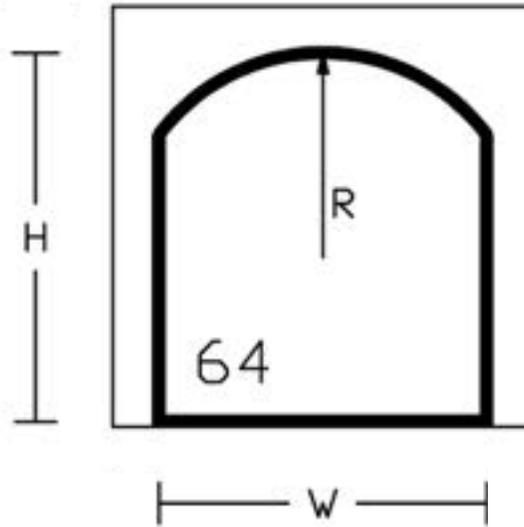
W is the base, NOT the blocksize width.



$$W \leq 2 * R$$

$$R - \sqrt{R^2 - \frac{w^2}{4}} < H$$

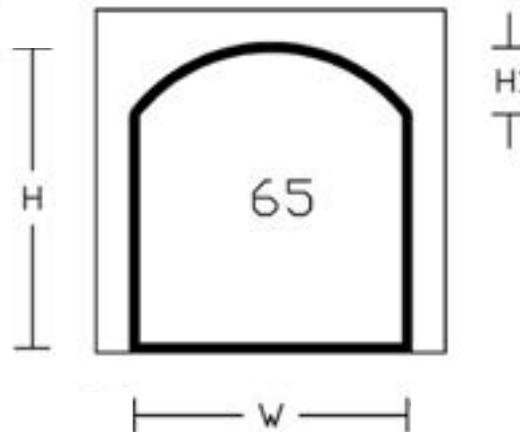
$$R - \sqrt{R^2 - \frac{w^2}{4}} > 0$$



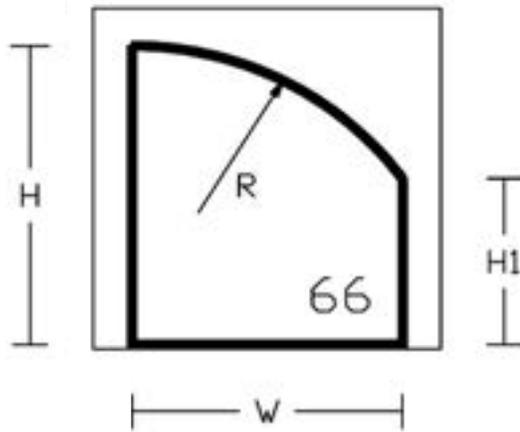
$$2 * H1 \leq W$$

$$H1 < H$$

$$H1 > 0$$



Can be worked backwards if only leg height is known, and radius is consistent.



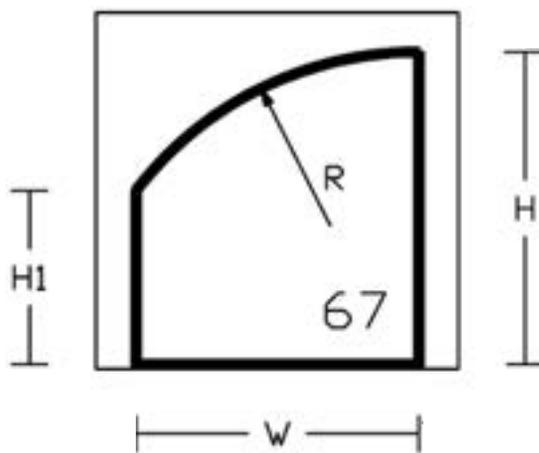
$$H1 < H$$

$$\sqrt{w^2 + (H - H1)^2} \leq 2 * R$$

$$W > 0$$

$$H1 > 0$$

$$R > 0$$



$$H1 < H$$

$$\sqrt{w^2 + (H - H1)^2} \leq 2 * R$$

$$W > 0$$

$$H1 > 0$$

$$R > 0$$

See Shapes 76 & 77  
for Alternate Options

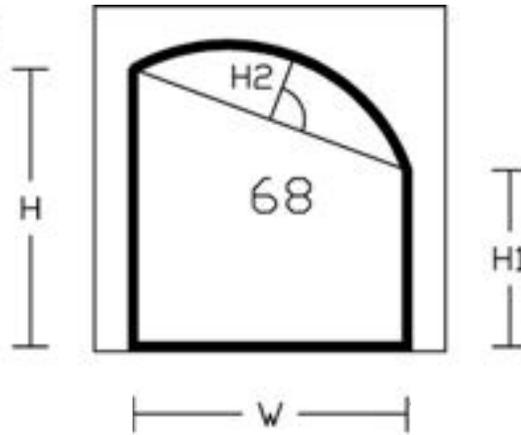
$$H1 < H$$

$$2 * H2 \leq \sqrt{W^2 + (H - H1)^2}$$

$$H2 > 0$$

$$H1 > 0$$

$$W > 0$$



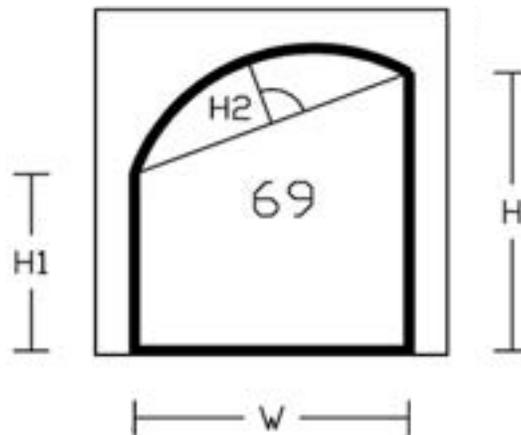
$$H1 < H$$

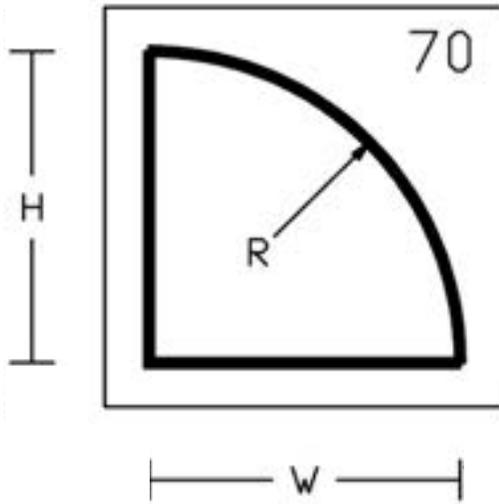
$$2 * H2 \leq \sqrt{W^2 + (H - H1)^2}$$

$$H2 > 0$$

$$H1 > 0$$

$$W > 0$$



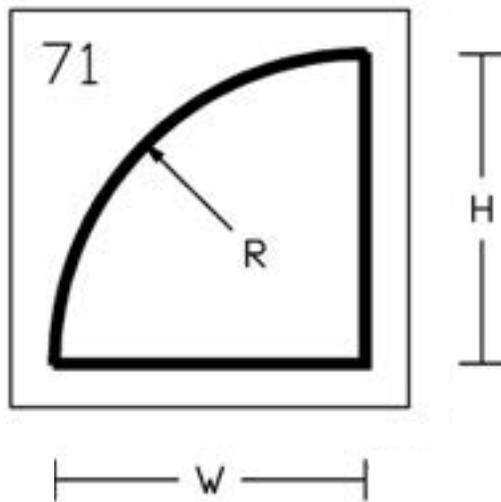


$$\sqrt{W^2 + H^2} \leq 2 * R$$

$$H > 0$$

$$W > 0$$

Perfect 1/4 circle will  
have r=w=h



$$\sqrt{W^2 + H^2} \leq 2 * R$$

$$H > 0$$

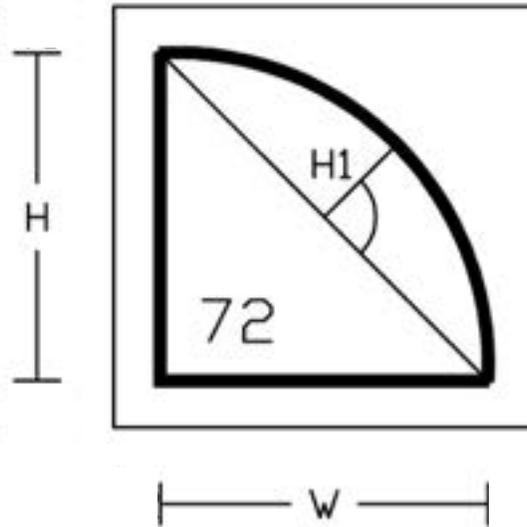
$$W > 0$$

$$2 * H1 \leq \sqrt{W^2 + H^2}$$

$$W > 0$$

$$H > 0$$

$$H1 > 0$$

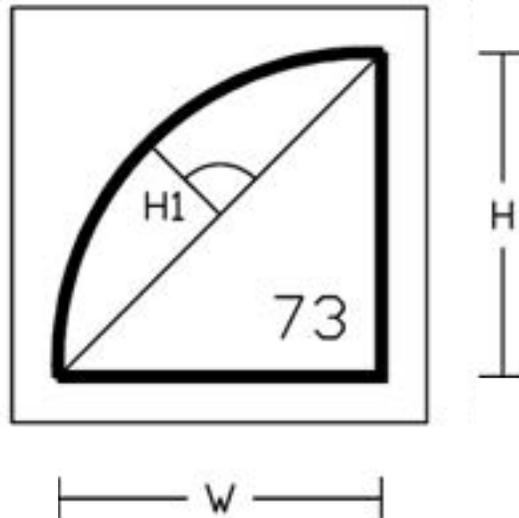


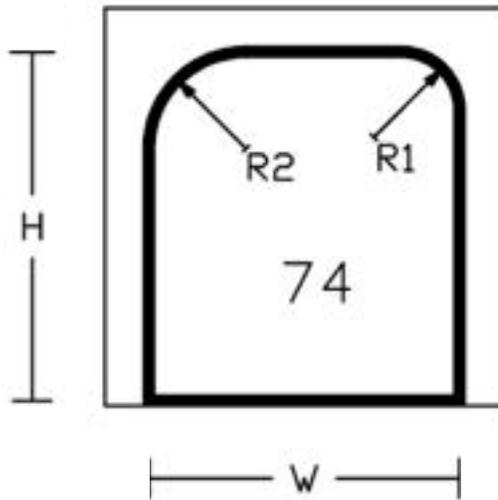
$$2 * H1 \leq \sqrt{W^2 + H^2}$$

$$W > 0$$

$$H > 0$$

$$H1 > 0$$





$$R1 \leq H$$

$$R2 \leq H$$

$$R1 + R2 \leq W$$

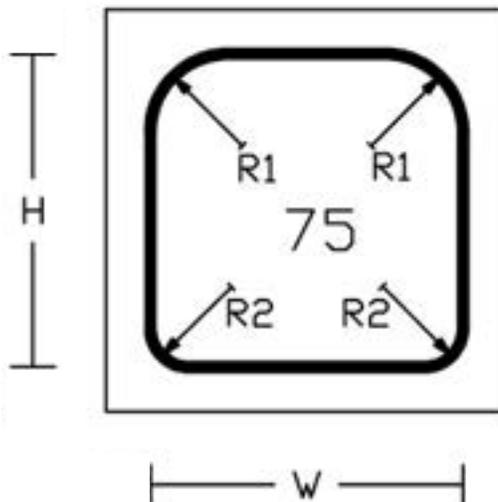
$$R1 > 0$$

$$R2 > 0$$

$$W > 0$$

See Shape 133 for  
Inversion

4 Radius Corners (Different Inputs for Top and Bottom)



$$2 * R1 \leq W$$

$$2 * R2 \leq W$$

$$R1 + R2 \leq H$$

$$R1 > 0$$

$$R2 > 0$$

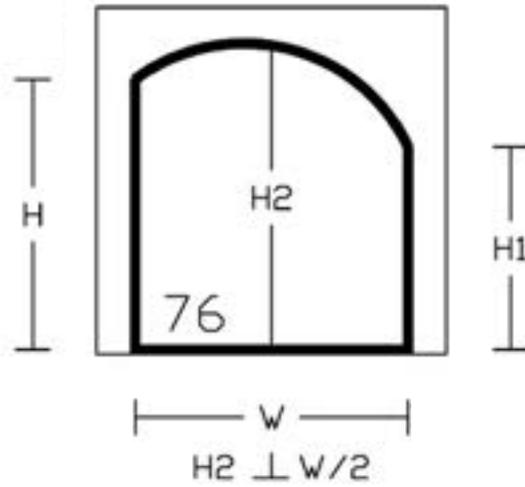
This shape only  
supports TWO different  
radius. Any more will  
be shape 99.

$$H > H1$$

$$H2 > \frac{(H + H1)}{2}$$

$$H1 > 0$$

$$W > 0$$

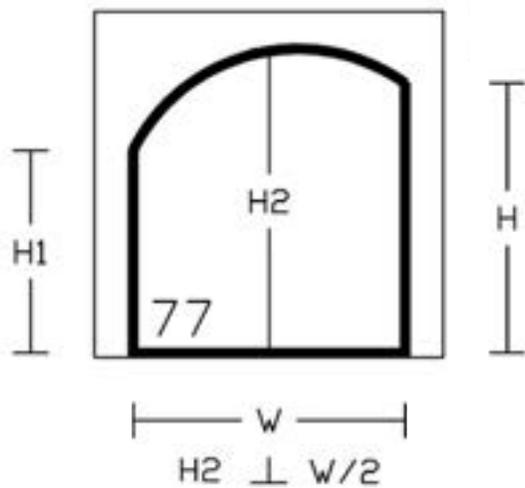


$$H > H1$$

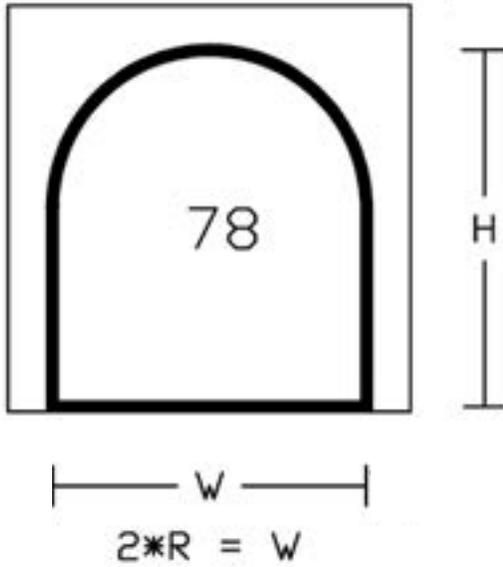
$$H2 > \frac{(H + H1)}{2}$$

$$H1 > 0$$

$$W > 0$$



76 and 77 H2 measure only the middle/center height, NOT the block size or tallest height.



$$H > 0$$

$$W > 0$$

$$H > \frac{W}{2}$$

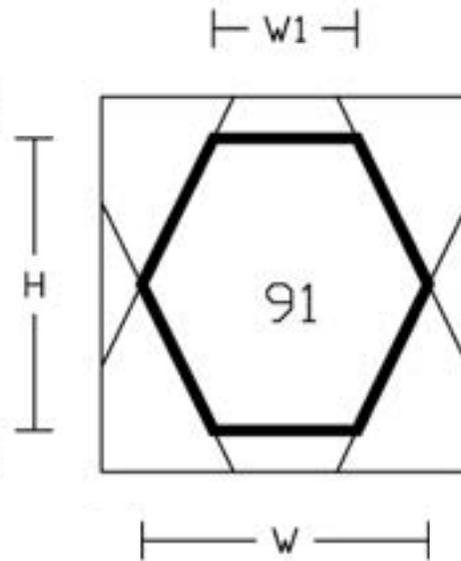
**This shape ALWAYS assumes a perfect half circle, with a small leg at minimum.**

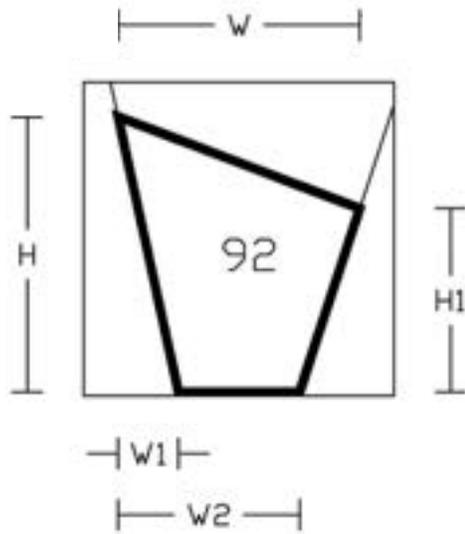
**To do anything other than a perfect half circle. Use shape 62 or 63.**

$$W > W1 > 0$$
$$H > 0$$

This shape is symmetrical, just not equilateral.

See shape 22 for alternate.



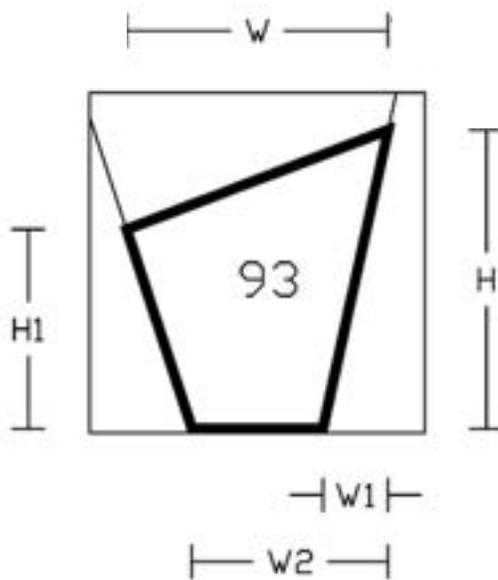


$$W \geq W_2$$

$$W_1 \geq 0$$

$$W_2 > W$$

$$H \geq H_1 > 0$$



$$W \geq W_2$$

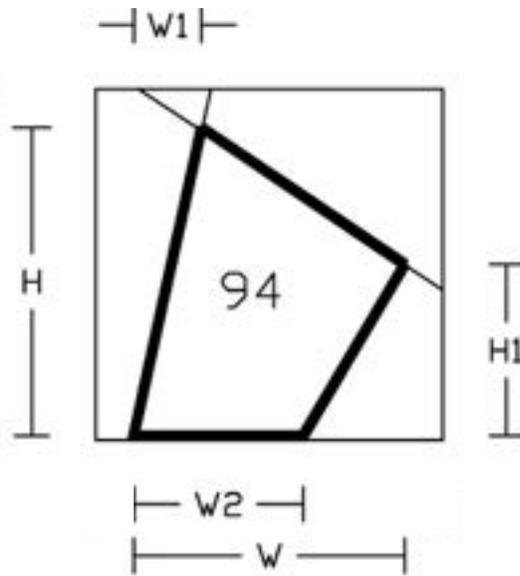
$$W_1 \geq 0$$

$$W_2 > W$$

$$H \geq H_1 > 0$$

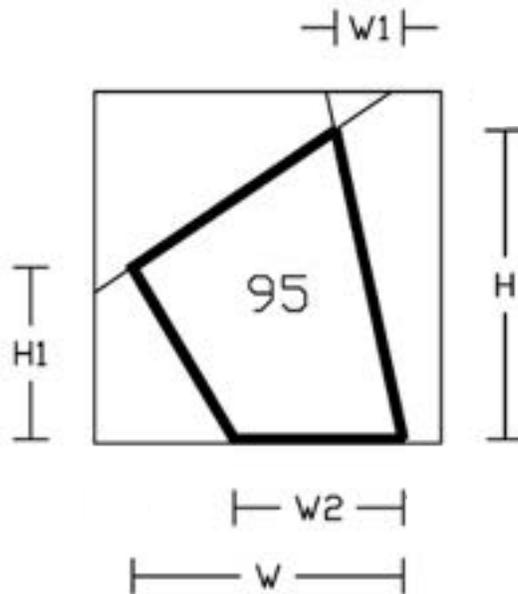
Base and Kickout both need to be measured.

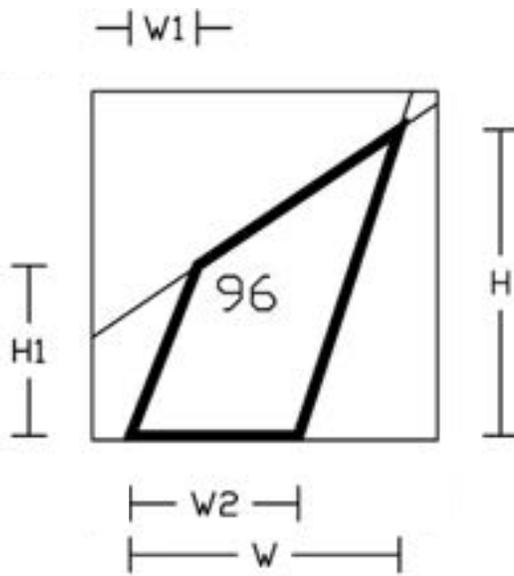
$W1 > 0$   
 $W2 > 0$   
 $W > W1$   
 $W > W2$   
 $H \geq H1 > 0$



**W + H is blocksize and  
 W1, W2, and H1 are  
 kickouts.**

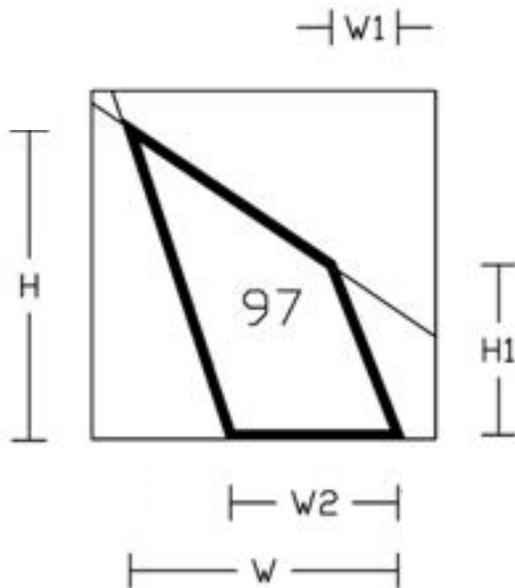
$W1 > 0$   
 $W2 > 0$   
 $W > W1$   
 $W > W2$   
 $H \geq H1 > 0$





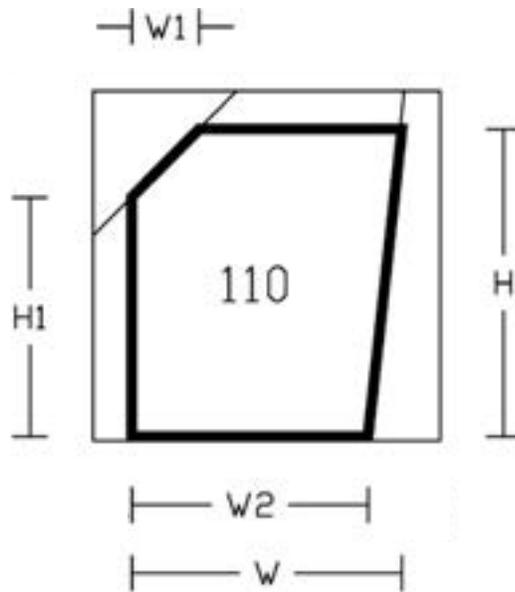
$W1 > 0$   
 $W2 > 0$   
 $W > W1$   
 $W > W2$   
 $H \geq H1 > 0$

**W + H is blocksize and  
 W1, W2, and H1 are  
 kickouts.**

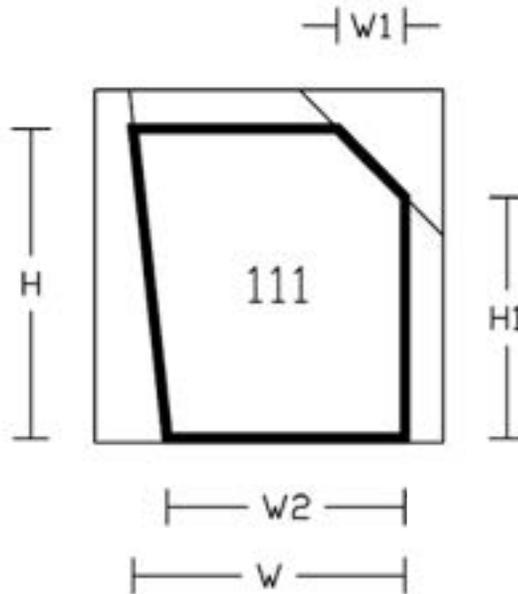


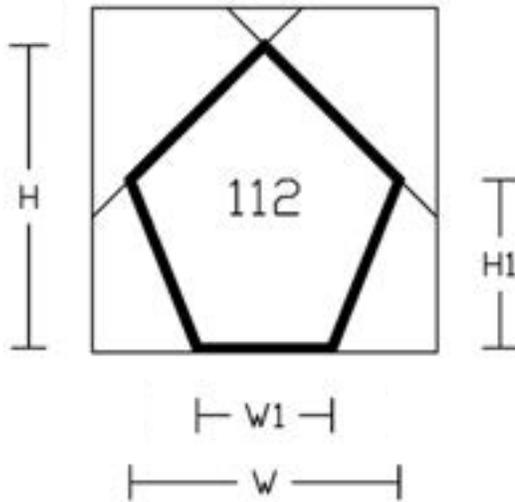
$W1 > 0$   
 $W2 > 0$   
 $W > W1$   
 $W > W2$   
 $H \geq H1 > 0$

$W > W1$   
 $W \geq W2$   
 $W1 > 0$   
 $W2 > 0$   
 $H > H1 > 0$



$W > W1$   
 $W \geq W2$   
 $W1 > 0$   
 $W2 > 0$   
 $H > H1 > 0$





$$W1 > 0$$

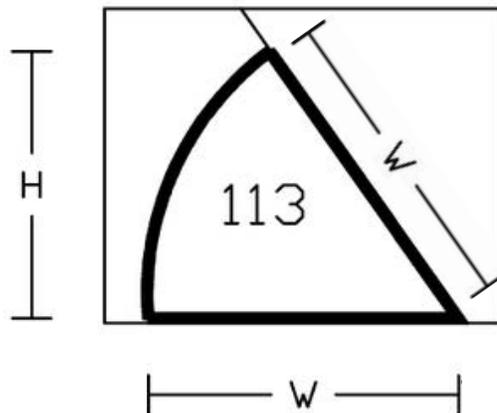
$$W \geq W1$$

$$H > H1 > 0$$

Shape is symmetrical on the X-axis, also not equilateral.

Shape can also be used for house and concave pentagons.

Pie Slice



$$H > 0$$

$$W \geq H$$

Radius always =  $W$

Shape is used for pizza slices up to a perfect 1/4" circle.

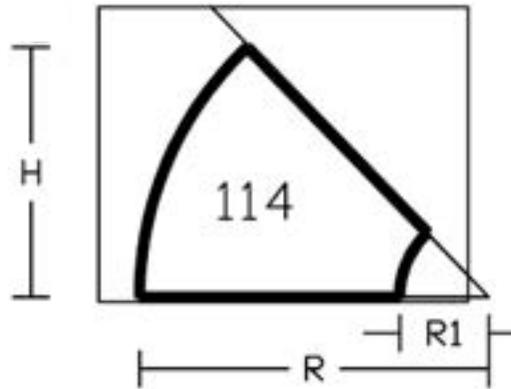
$$R > R1 > 0$$

$$R \geq H$$

$$H > 0$$

Works the exact same as 113. Just measure the Radius instead of side lengths.

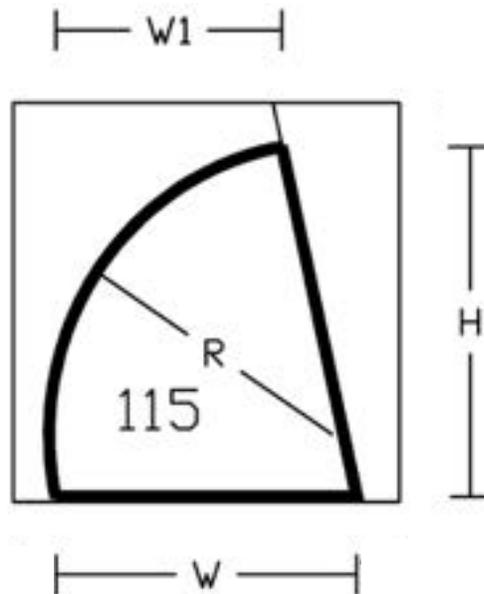
Max Height = R

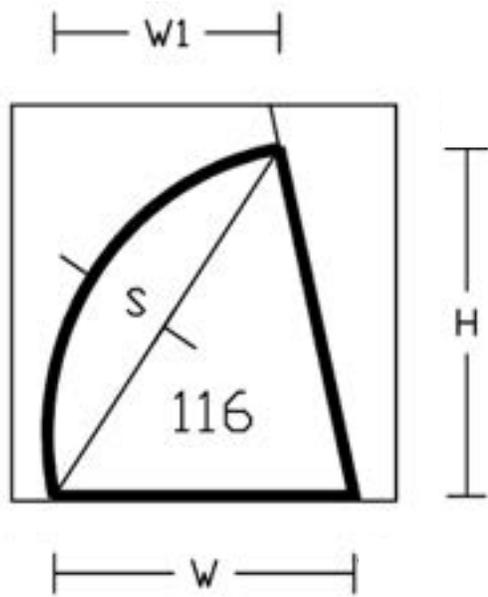


$$W \geq W1 > 0$$

$$2R \geq \sqrt{W1^2 + H^2}$$

Be careful when providing measurements.





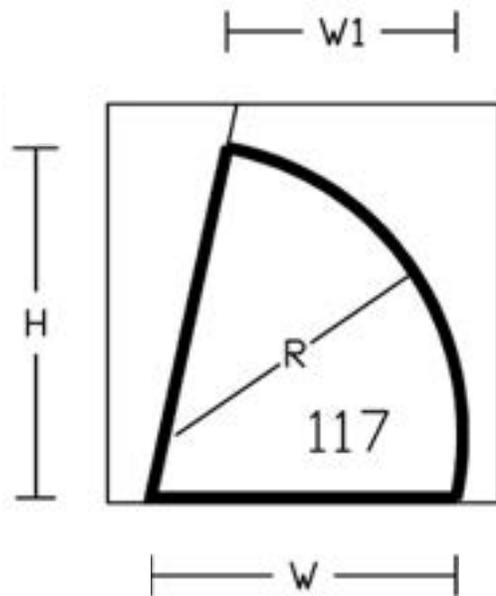
$$W \geq W1 > 0$$

$$S > 0$$

$$H > 0$$

$$2S \geq \sqrt{W1^2 + H^2}$$

Be careful when providing measurements on these.



$$W \geq W1 > 0$$

$$2R \geq \sqrt{W1^2 + H^2}$$

$$H > 0$$

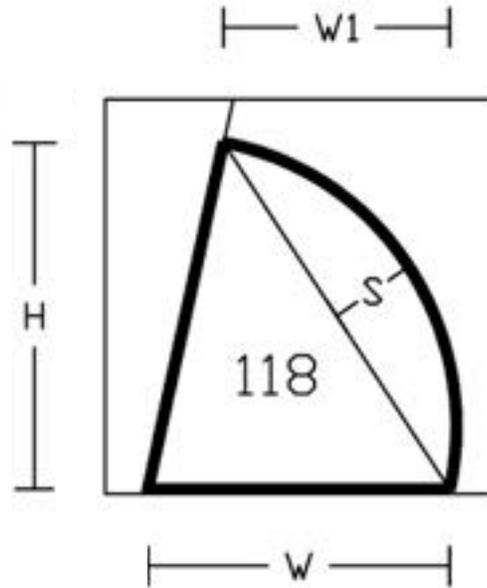
$$W \geq W1 > 0$$

$$S > 0$$

$$H > 0$$

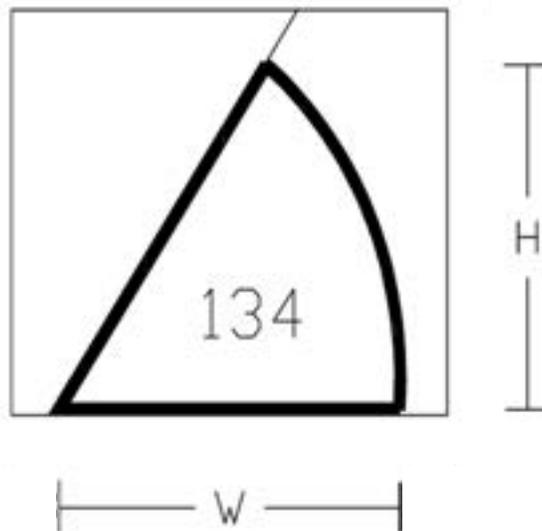
$$2S \geq \sqrt{W1^2 + H^2}$$

Be careful when providing measurements.

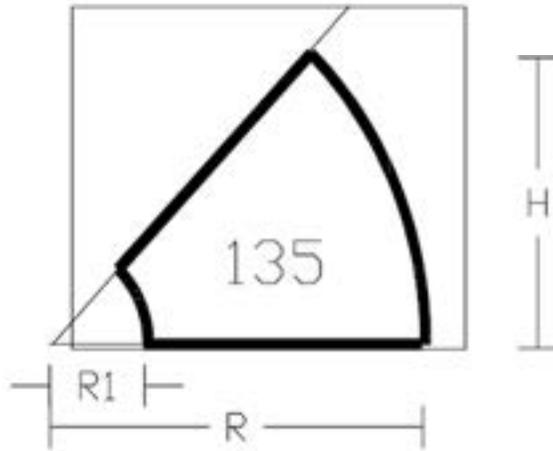


$$H > 0$$

$$W \geq H$$

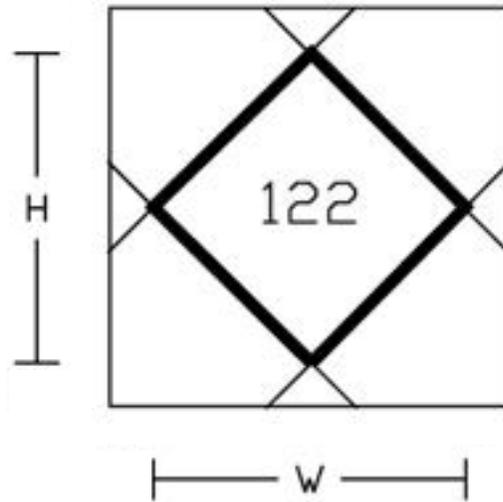


$R > R1 > 0$   
 $R \geq H$   
 $H > 0$

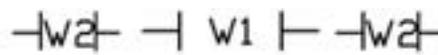


$$W > 0$$

$$H > 0$$



Equilateral, but not always symmetrical.

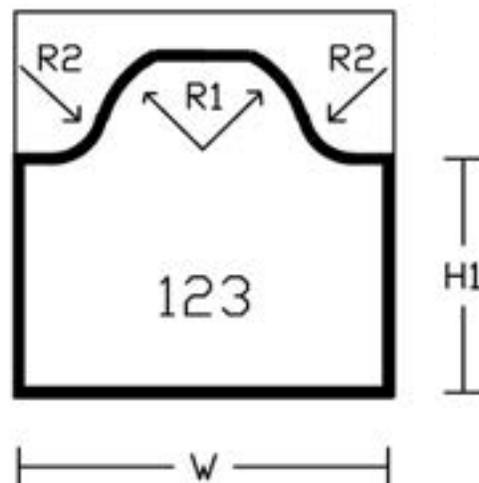


$$R2 + R1 > \frac{(W - W1 - 2 * W2)}{2}$$

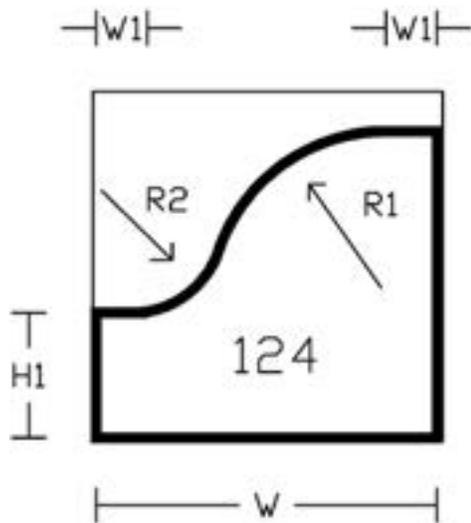
$$R1 > 0$$

$$R2 > 0$$

$$W > 0$$



Suggest shape 99 instead everytime.



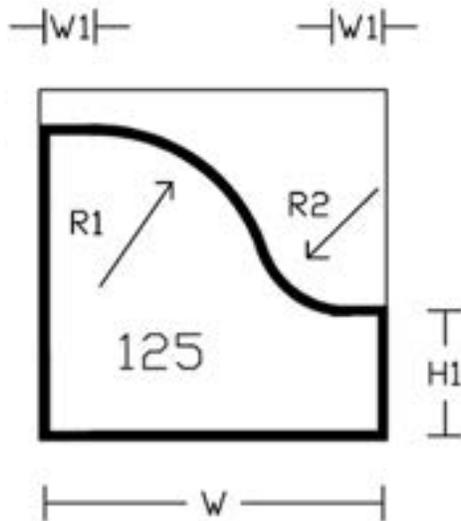
$$R2 + R1 \geq W - 2 * W1$$

$$R1 > 0$$

$$R2 > 0$$

$$W > 0$$

**Suggest shape 99  
instead everytime.**

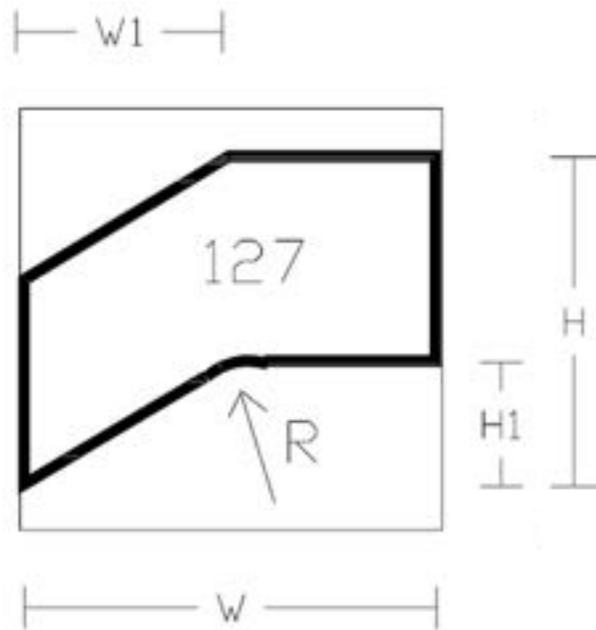
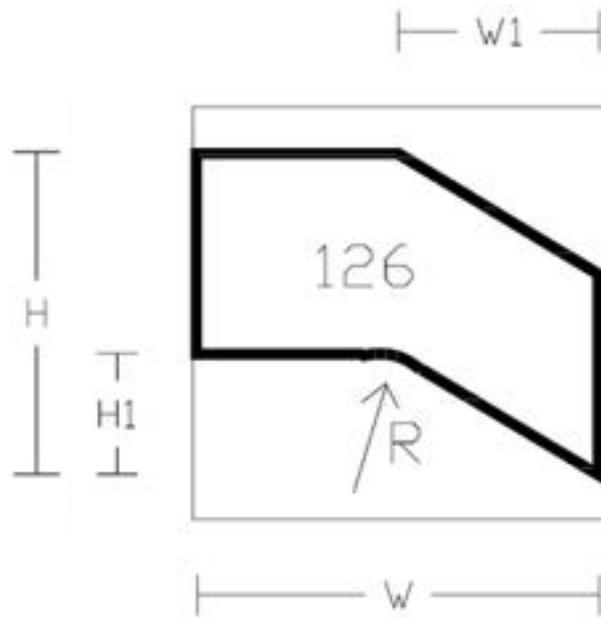


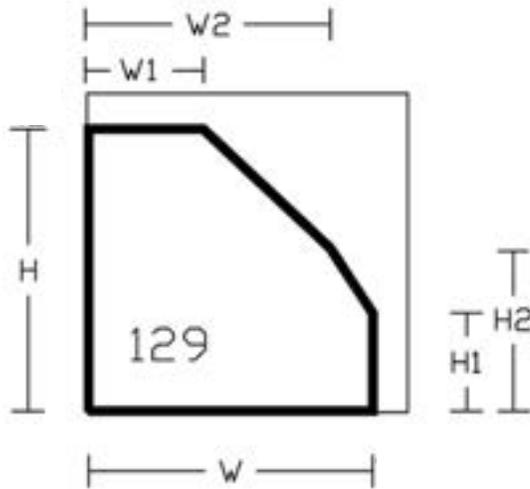
$$R2 + R1 \geq W - 2 * W1$$

$$R1 > 0$$

$$R2 > 0$$

$$W > 0$$





$$\frac{H - H1}{W - W1} > \frac{H - H2}{W2 - W1}$$

$$W1 > 0$$

$$W2 > W1$$

$$W > W2$$

$$H1 > 0$$

$$H2 > H1$$

$$H > H2$$

$$\frac{H - H1}{W - W1} > \frac{H - H2}{W2 - W1}$$

$$W1 > 0$$

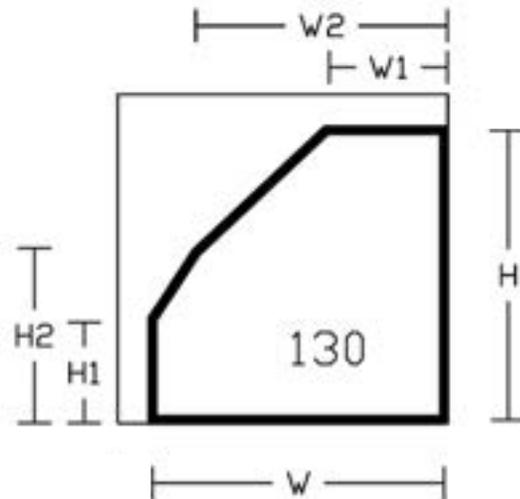
$$W2 > W1$$

$$W > W2$$

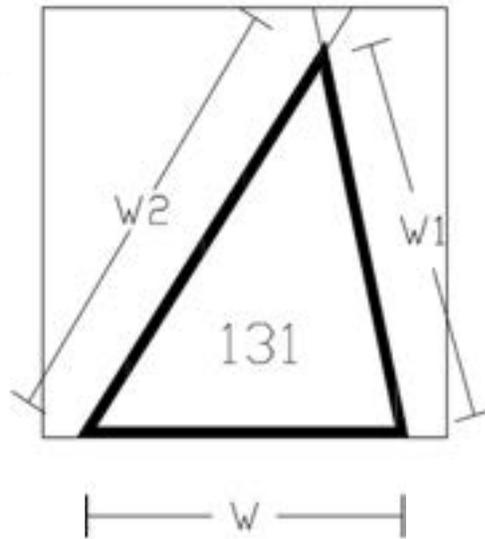
$$H1 > 0$$

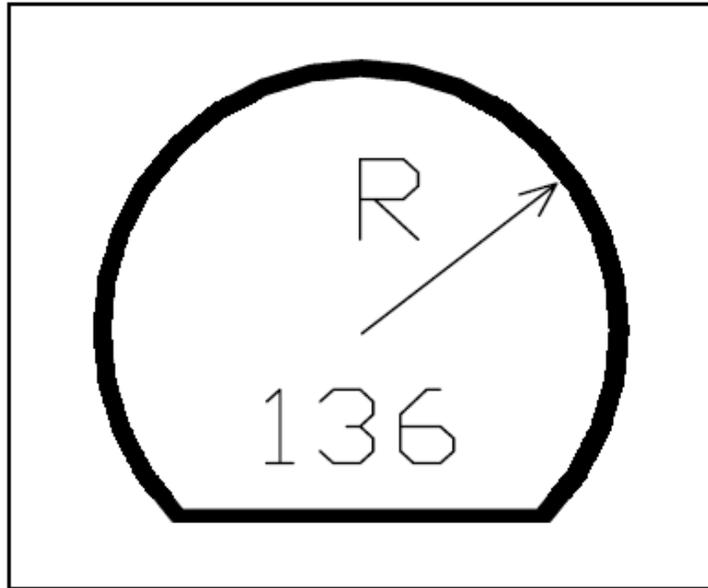
$$H2 > H1$$

$$H > H2$$



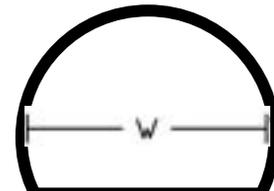
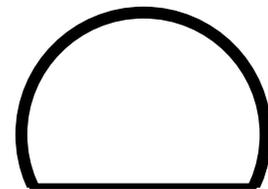
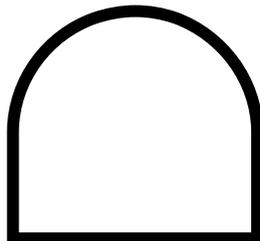
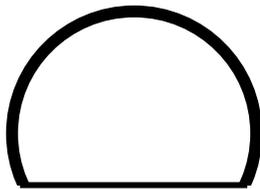
$$W1 \leq \sqrt{W^2 + W2^2}$$
$$W2 \leq \sqrt{W^2 + W1^2}$$

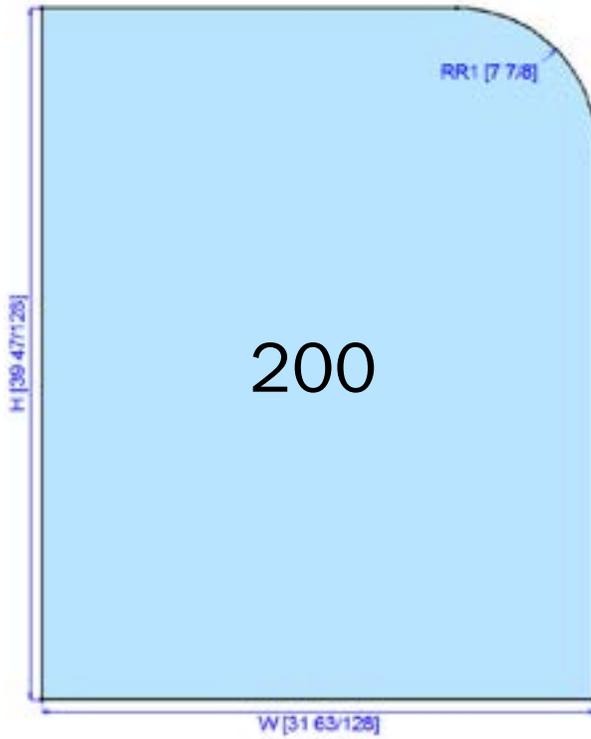




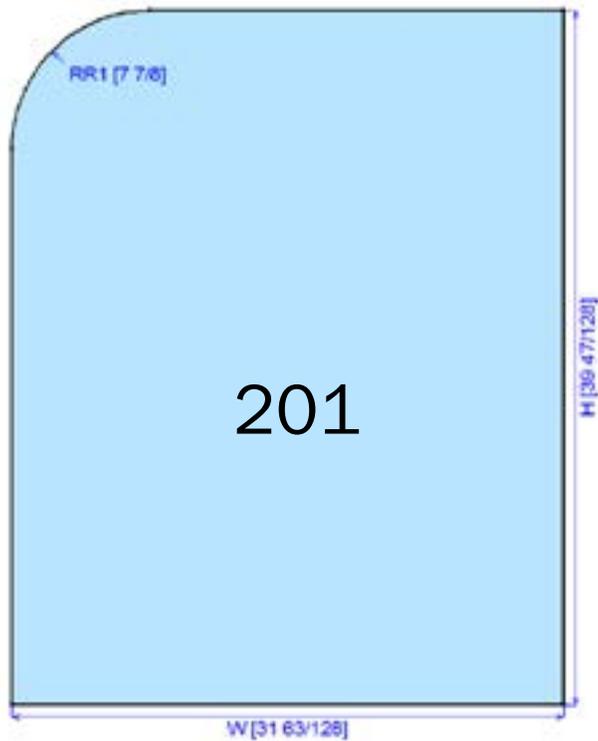
If height is greater than radius, the shape WILL bubble out. Not just get legs at the base.

W is the base, NOT the blocksize width.

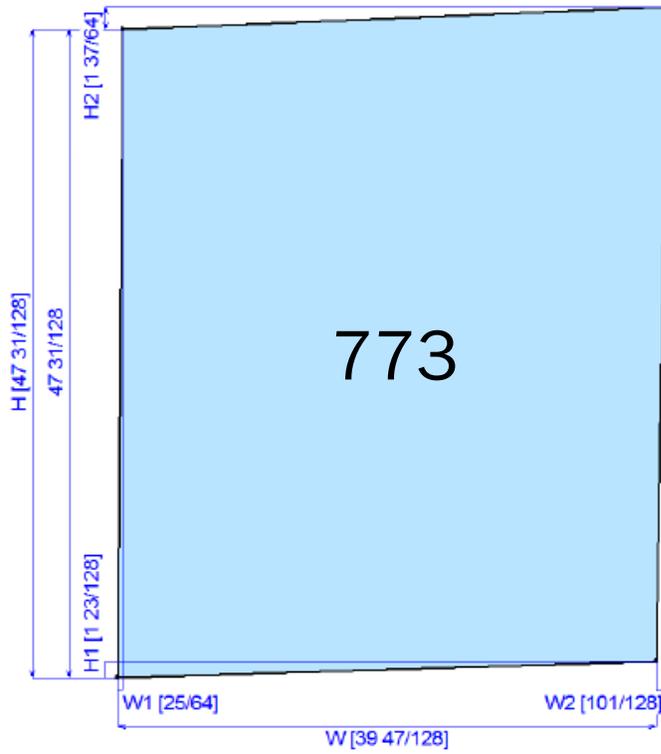
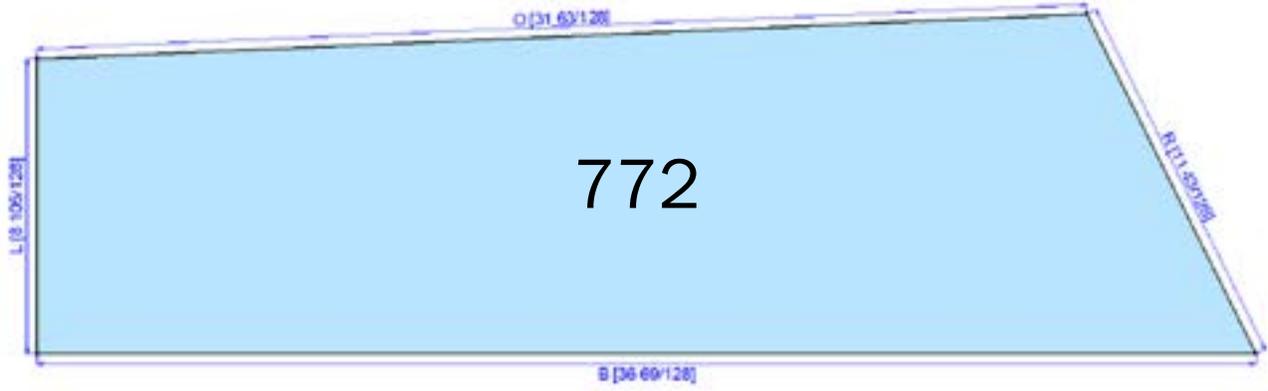


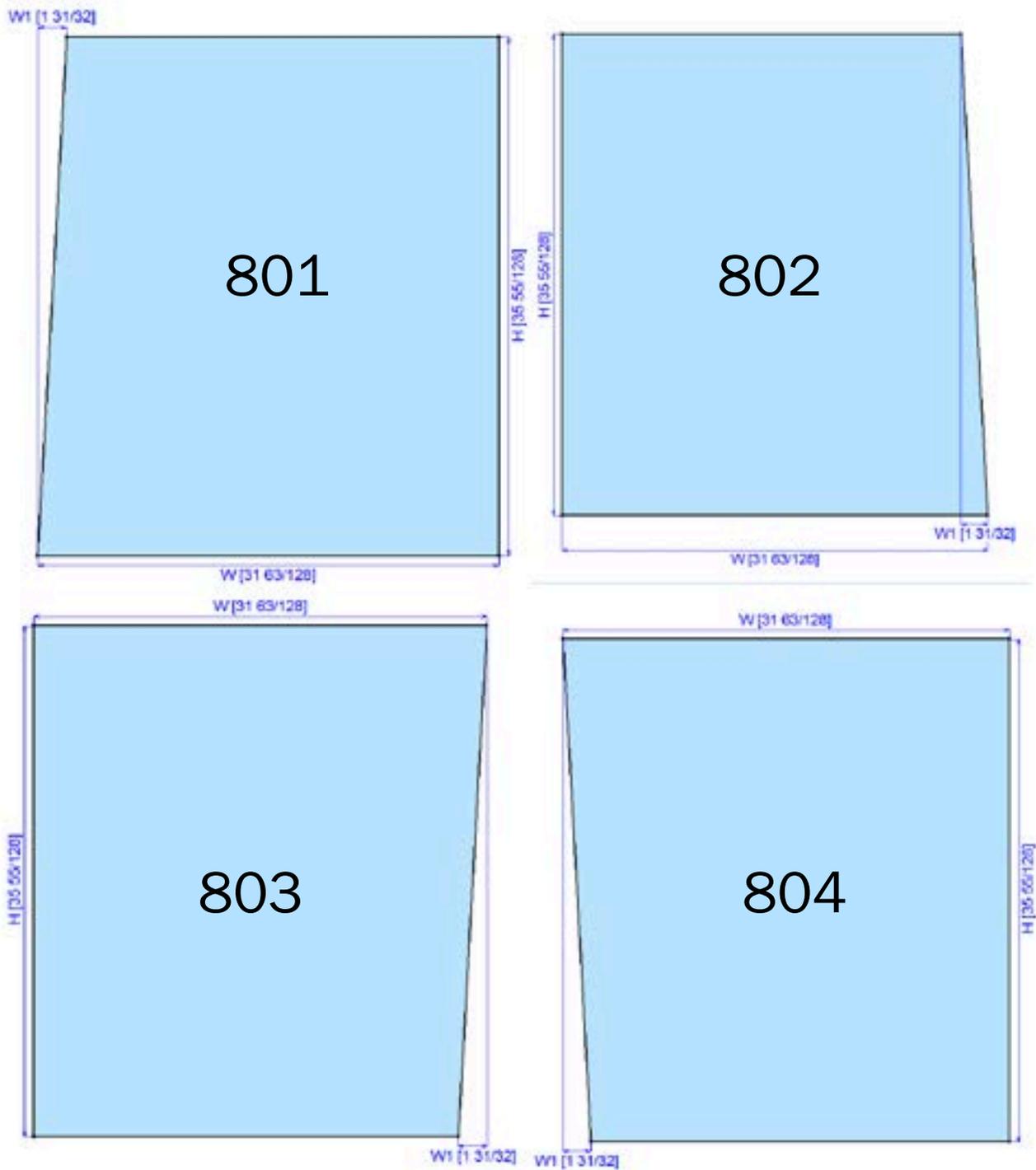


$H \geq R1$   
 $R1 > 0$   
 $W > 0$

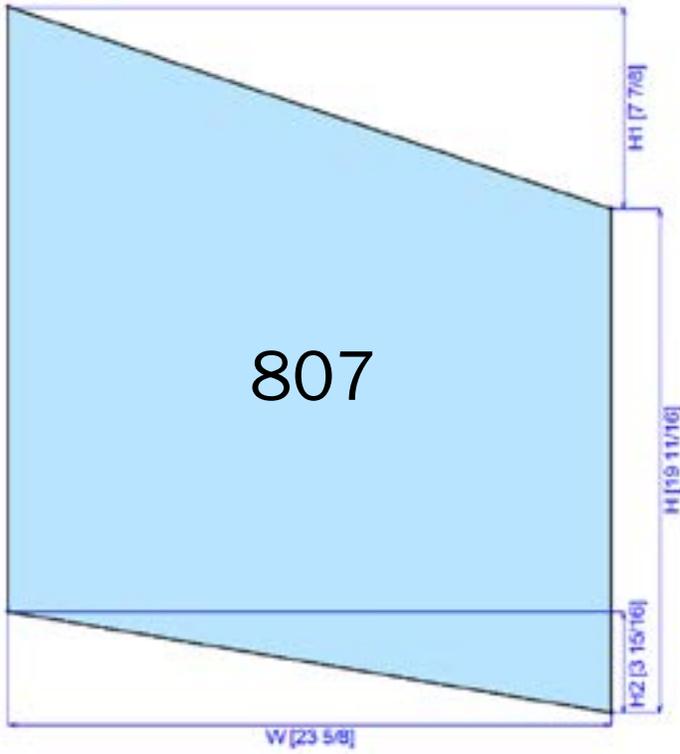


$H \geq R1$   
 $R1 > 0$   
 $W > 0$

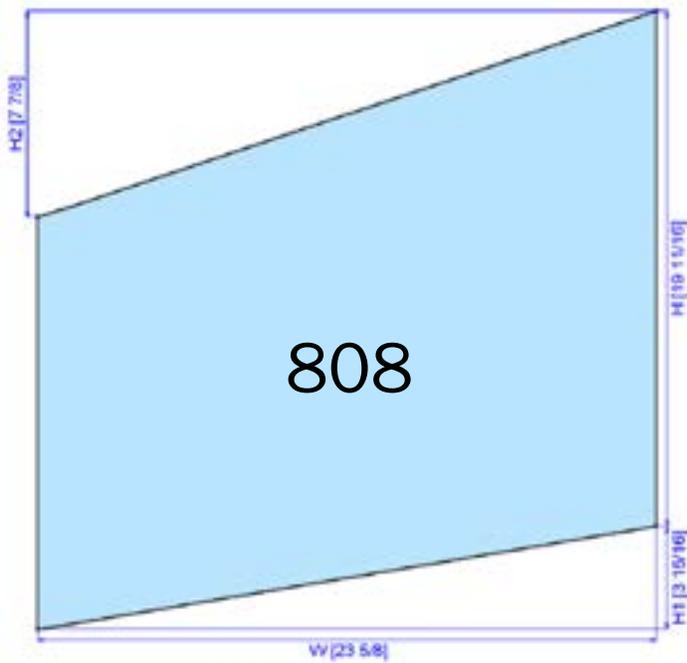




$H > 0$   
 $W > W1$   
 $W > 0$



$H > 0$   
 $W1 \geq 0$   
 $H2 \geq 0$   
 $H + H1 > H2$   
 $W > 0$



$H > 0$   
 $W1 \geq 0$   
 $H2 \geq 0$   
 $H + H1 > H2$   
 $W > 0$



# THE BRIN DIFFERENCE



**Design**



**Fabrication**



**Distribution**



**Installation**



**Service**

Brin provides a full-service, end-to-end glass solution tailored to the needs of construction contractors, building material manufacturers, property managers, and industry suppliers. From design and fabrication to installation, repairs, and maintenance, we manage every phase of your project with precision and care. With four strategic locations across Minnesota, including a state-of-the-art fabrication facility, our team ensures top-quality results at every step. Trust the Brin family of companies to be your reliable partner for expert glass solutions—delivering excellence from start to finish.



## 114+ Years of Glazing Expertise

Need a specialized glass installation that involves unique equipment, permits, or complex site logistics? With over 114 years of glazing experience and the combined strength of our family of companies, Brin has the expertise and resources to tackle challenging projects across Minnesota and beyond. From coordinating lifts and swing stages to managing street closures, we take care of every detail so you can focus on your priorities. Trust Brin for safe, seamless service and tailored glazing solutions for your project.

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**We Show Up. We Bring It. We Do It Right.  
And we've been at it for over 114 years.**

Brin is a trusted, full-service glass partner for contractors, construction firms, manufacturers, and industry suppliers across Minnesota and the Upper Midwest. Through our family of companies—Brin Glass Company, Northwestern Glass Fab, Heartland Glass, and St. Germain's Glass—we deliver end-to-end solutions, from design and fabrication to installation, service, and distribution.

We are proud to be both a Top 50 Contract Glazier and a Top 50 Fabricator—a unique distinction that reflects our diverse capabilities and commitment to excellence. As an employee-owned, union-strong company, Brin blends legacy craftsmanship with forward-thinking innovation.

At Brin, we don't just build glass—we build people. By investing in training and developing the next generation of glaziers and fabricators, we ensure every project is backed by skill, pride, and purpose.

