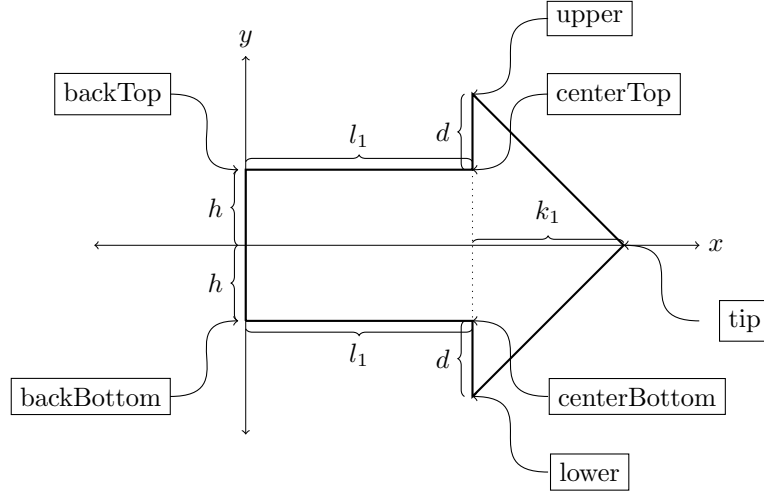# Diagrams and equations for WWDC18 Scholarship submission
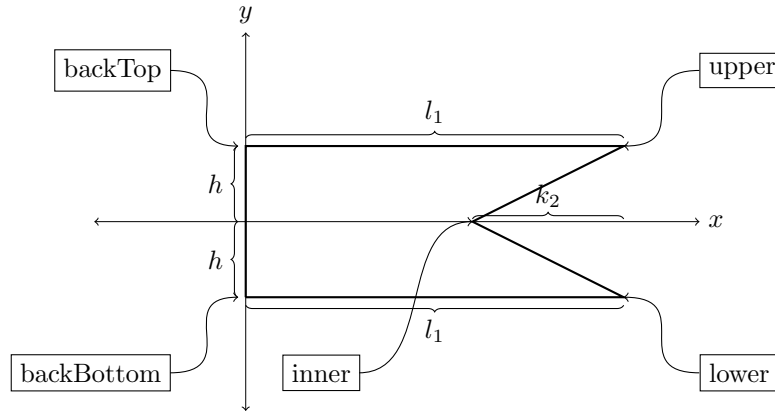
Yuval Gat

March 2018

Hour arrrow variable names

Minute arrrow variable names

Rotation equations

In order to rotate the point (x_0, y_0) about the origin $(0,0)$ with angle θ (clockwise), one uses the following formulas:

$x' = x\cos(\theta) - y\sin(\theta)$
$y' = x\sin(\theta) + y\cos(\theta)$

We apply these formulas repeatedly throughout my code in order to rotate the arrow properly.