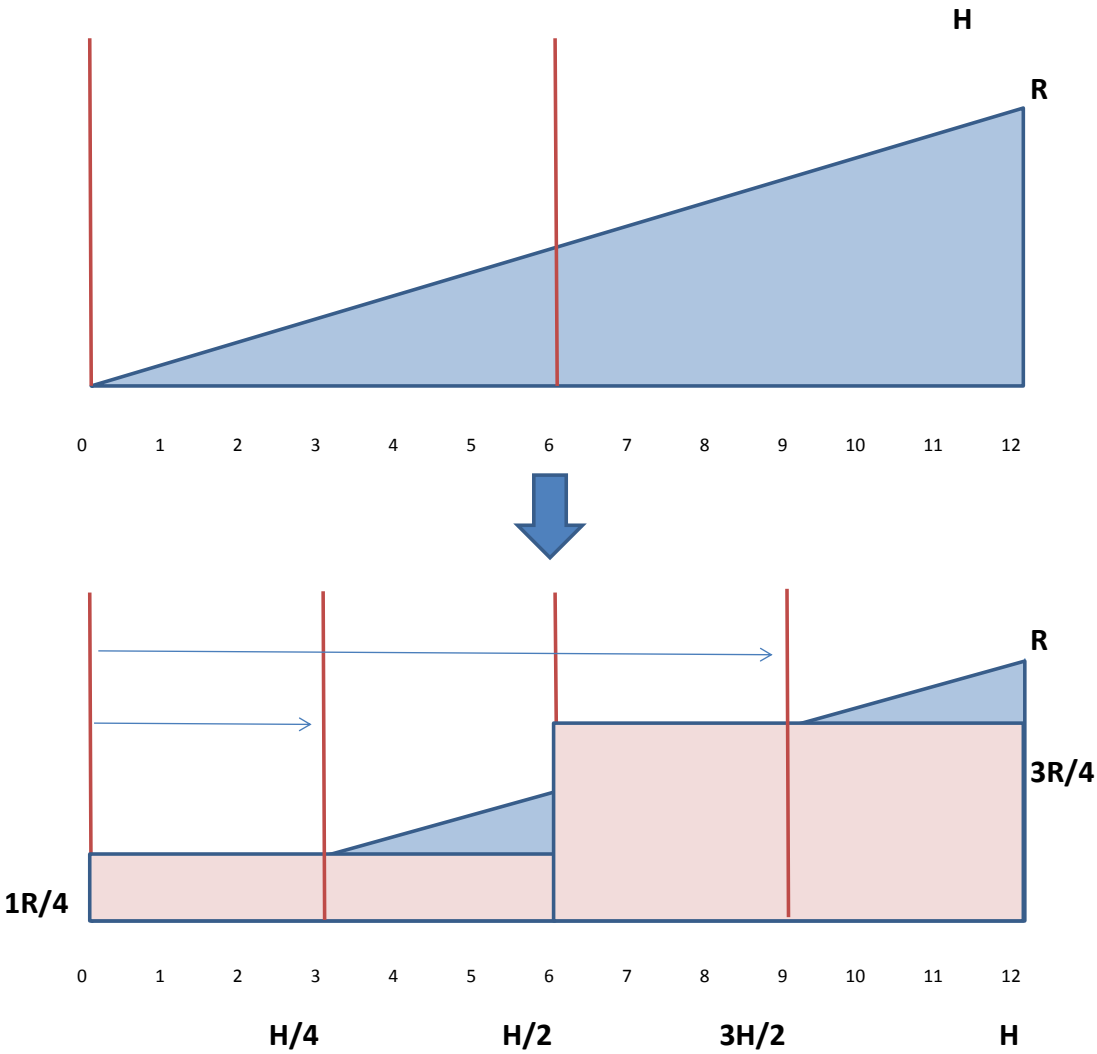
Cone section Center of gravity



Divide in 2

Radius cilinder 1	R/4	Volume cilinder 1	$pi*(R/4)^2 /4 * H/2$
Radius cilinder 2	3R/2		
Height cilinder 1	H/2	Volume cilinder 2	$pi*(3R/4)^2 /4 * H/2$
Height cilinder 2	H/2		
		Total volume	$pi*((R/4)^2+(3R/4)^2) /4 * H/2$

Moment of cilinder 1 $H/4 * pi*(R/4)^2 /4 * H/2$

Moment of cilinder 2 $3H/4 * pi*(3R/4)^2 /4 * H/2$! Look at the magnitude of this moment related to the first !

CG * Total Volume = Moment of cilinder 1 + Moment of cilinder 2

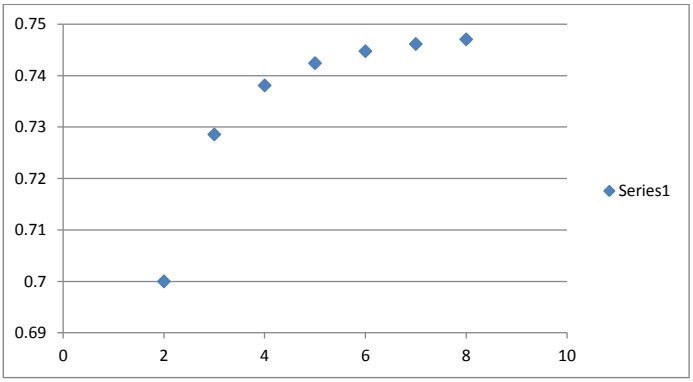
CG = (Moment of cilinder 1 + Moment of cilinder 2)/ Total Volume

$CG =(H/4 * pi*(R/4)^2 /4 * H/2 + 3H/4 * pi*(3R/4)^2 /4 * H/2) / (pi* ((R/4)^2+(3R/4)^2)/4*H/2))$

- $CG =(H/4 * (R/4)^2 /4 * H/2 + 3H/4 * (3R/4)^2 /4 * H/2) / (((R/4)^2+(3R/4)^2)/4*H/2))$ eliminating pi
- $CG =(1/4 * (R/4)^2 /4 * 1/2 + 3H/4 * (3R/4)^2 /4 *1/2) / (((R/4)^2+(3R/4)^2)/4*1/2))$ eliminating H
- $CG =(1/4 * (1/4)^2 /4 * 1/2 + 3H/4 * (3/4)^2 /4 * 1/2) / (((1/4)^2+(3/4)^2)/4*1/2))$ eliminating R^2
- $CG =(1/4 * (1/4)^2 /4 * 1/2 + 3H/4 * (3/4)^2 /4 * 1/2) / (((1/4)^2+(3/4)^2)/4*1/2))$
- CG =28 H /40 (0.7 H)

Divide in 3….

Divide in 4….



Divisions	2	3	4	5	6	7	8
	4	6	8	10	12	14	16
	28	153	496	1225	2556	4753	8128
	10	35	84	165	286	455	680
CM/H	0.7	0.728571	0.7381	0.74242	0.74476	0.74615	0.74706