

Landscape Block Circle Algorithm : Algorithm Part R_s to R_f

* R_1 is set to R_s

- Equations 1 to 4 described at [Method Alg_P1.htm](#) Blocks per Ring

Eqn 1: $\beta = 2 \cdot \arctan(W_f / (2 \cdot R_1))$

Eqn 2: $\delta = 2 \cdot \arctan(W_m / (2 \cdot (R_1 + D_m)))$

Eqn 3: $\varepsilon = \text{maximum}(\beta, \delta)$

Eqn 4: $\text{floor}(B_r = 360 / \varepsilon)$... blocks per circle ring if ε is in degrees and floor is the maximum integer less than $360 / \varepsilon$

- Equations 5 to 11 described at [:Equations 5 to 11 building rings out](#)

EQN 5: $R_3 = R_1 + D_1$

EQN 6: $R_4 = \sqrt{(R_3^2 + (W_1/2)^2)}$

EQN 7: $\eta = \arccosine(1 - W_1^2 / (2 \cdot (R_4^2)))$

EQN 8: $\theta = 360 / B_r$ 360 degrees by blocks in a circle ring

EQN 9: $\kappa = \theta - \eta$

EQN 10: $G = \sqrt{(2 \cdot R_4^2 (1 - \cosine(\kappa)))}$

EQN :11 $R_5 = \sqrt{(R_4^2 - (G/2)^2)}$

- Equations 12 to 14 described at [:Equations 12 to 14 Marking out the Outer Ring](#)

EQN :12 $R_6 = \sqrt{(R_1^2 - (W_f/2)^2)}$

EQN :13 $C_u = \text{floor}(B_r/2 + .51)$

EQN 14: $C_{h(n)} = \sqrt{(2 \cdot R_6^2 (1 - \cosine(\theta)))}$ for $(n = 1 \text{ to } C_u)$