

1.

$d_1 = 7,3 \text{ mm}$

$U = d * \pi$

$d_2 = 13 \text{ mm}$

$U_1 = 22,93 \text{ mm}$

$U_2 = 40,84 \text{ mm}$

$d_3 = 19,5 \text{ mm}$

$U_3 = 61,26 \text{ mm}$

$U_4 = 64,40 \text{ mm}$

$d_4 = 20,5 \text{ mm}$

$U_5 = 247,87 \text{ mm}$

$d_5 = 78,9 \text{ mm}$

2.

$U_1 = 62,8 \text{ mm}$

$d = \frac{U}{\pi}$

$U_2 = 15,7 \text{ mm}$

$d_1 = 19,99 \text{ mm}$

$d_2 = 5 \text{ mm}$

$U_3 = 31,4 \text{ mm}$

$d_3 = 10 \text{ mm}$

$d_4 = 69,96 \text{ mm}$

$U_4 = 219,8 \text{ mm}$

$d_5 = 26,99 \text{ mm}$

$d_6 = 124,94 \text{ mm}$

$U_5 = 84,78 \text{ mm}$

$U_6 = 392,5 \text{ mm}$

3.

$d = 600 \text{ mm}$

$U = d * \pi$

$U = U + 2 * a$

$a = 1250 \text{ mm}$

$U = 1884,96 \text{ mm}$

$U = 4384,96 \text{ mm}$

$U = 4384,96 \text{ mm}$

4.

$r_1 = 30 \text{ mm}$

$U_i = d * \pi$

$U_a = 2 * r_1 * \pi + 4 * a$

$d = 20 \text{ mm}$

$U_i = 62,83 \text{ mm}$

$U_a = 668,5 \text{ mm}$

$a = 120 \text{ mm}$

$b = 180 \text{ mm}$

$U_i = 62,83 \text{ mm}$

$U_a = 668,5 \text{ mm}$

5.

$r_1 = 30 \text{ mm}$

$U_a = r_1 * \pi + 2 * c + \frac{d}{2} + r_2 * \pi$

$r_2 = 15 \text{ mm}$

$U_a = 341,37 \text{ mm}$

$a = 65 \text{ mm}$

$U_i = 2 * (a + b)$

$b = 7 \text{ mm}$

$U_i = 144 \text{ mm}$

$c = 85 \text{ mm}$

$d = 60 \text{ mm}$

$U_i = 144 \text{ mm}$

$U_a = 341,37 \text{ mm}$

6.

$$d = 20 \text{ mm}$$

$$r_1 = 95 \text{ mm}$$

$$r_2 = 150 \text{ mm}$$

$$\alpha = 65^\circ$$

$$U_i = 125,66 \text{ mm}$$

$$U_a = 387,94 \text{ mm}$$

$$U_a = 2 * r_2 - r_1 + \frac{r_1 * \pi * \alpha}{180} + \frac{r_2 * \pi * \alpha}{180}$$

$$U_a = 387,94 \text{ mm}$$

$$U_i = 2 * d * \pi$$

$$U_i = 125,66 \text{ mm}$$
