Radan geometrian kaavoja

Elementtien ominaisuuksia

$$l = S \cdot \frac{s_1 \pm s_2}{2}$$

$$y \approx \frac{x^2}{2S}$$

$$a_q \approx \frac{V^2}{12{,}96R} - \frac{h}{163}$$

$$h_{\text{teor}} \approx \frac{12{,}5V^2}{R}$$

$$d \approx \frac{L^2}{24R}$$

$$da_q = \frac{a_q}{L/v} = a_q \frac{V}{3{,}6L} \approx \frac{V^3}{46{,}656RL} - \frac{Vh}{586{,}8L}$$

$$da_q = \frac{a_q}{17/v} = a_q \frac{V}{61{,}2}$$

$$L = \frac{nh}{1000}$$

Mitoitustekijöitä

$$S_{\text{suos}} = \frac{V^2}{1\ldots1{,}5}$$

$$S_{\text{min}} = \frac{V^2}{3}$$

$$S_{\text{max}} = 50000$$

$$h_{\text{norm}} = \frac{8V^2}{R}$$

$$h_{\text{max}} = 150 \quad (\text{sepeli})$$

$$h_{\text{max}} = 120 \quad (\text{sora})$$

$$h_{\text{max}} = 120 \quad (\text{jos juna voi pysähtyä})$$

$$h_{\text{min}} = 20$$

$$n_{\text{suos}} = 10V$$

$$n_{\text{min}} = 8V$$

$$L_{\text{min}} = \frac{4{,}8 \cdot V^3}{100R}$$

$$a_{q,\text{maks}} = 0{,}65 \text{ m/s}^2$$

$$a_{q,\text{maks(sora)}} = 0{,}45 \text{ m/s}^2$$

$$a_{q,\text{maks(60E1)}} = 0{,}80 \text{ m/s}^2 \quad (\text{henkilöjunille})$$

$$a_{q,\text{maks(Pendolino)}} = 1{,}80 \text{ m/s}^2$$

$$a_{q,\text{min}} = -0{,}45 \text{ m/s}^2$$

$$a_{q,\text{min(negat)}} = -0{,}65 \text{ m/s}^2 \quad (60 \text{ km/h})$$

$$da_{q,\text{maks}} = 0{,}17 \text{ m/s}^3 \quad (\text{uudet radat})$$

$$da_{q,\text{maks}} = 0{,}45 \text{ m/s}^3 \quad (\text{ei jatkuvasti})$$

$$da_{q,\text{maks}} = 1{,}1 \text{ m/s}^3 \quad (\text{vaihteissa})$$