Lezione 28

$\pi \simeq 3{,}1416\ldots$

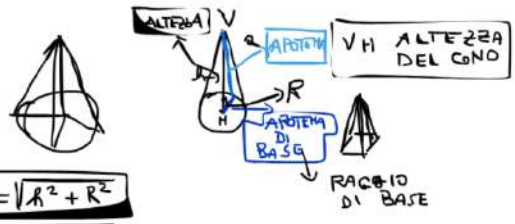
$S_\ell = 2p_{base} \cdot h$

$$S_\ell = C \cdot h = 2\pi R \cdot h$$

$$S_t = 2A_b + S_\ell = 2\pi R^2 + 2\pi R \cdot h = 2\pi R(R+h)$$

$$V = A_b \cdot h = \pi R^2 h$$

$$S_\ell = C \cdot h = 2\pi R \cdot h \Rightarrow R = \frac{S_\ell}{2\pi h} \qquad h = \frac{S_\ell}{2\pi R}$$



$Sl = \pi R \cdot a$

$a = \sqrt{h^2 + R^2}$

$R = \sqrt{a^2 - h^2}$

$h = \sqrt{a^2 - R^2}$

$Sl = \frac{C}{2} \cdot a = \frac{2\pi R}{2} \cdot a = \pi R \cdot a$

$R = \frac{Sl}{\pi \cdot a}$; $a = \frac{Sl}{\pi \cdot R}$

$St = Sl + A_b = \pi R \cdot a + \pi R^2 = \pi R(a + R)$

$A_b = St - Sl$

$V = \frac{1}{3} A_b \cdot h = \frac{\pi R^2 h}{3}$

$h = \frac{3V}{\pi R^2}$

$R^2 = \frac{3V}{\pi h} \Rightarrow R = \sqrt{\frac{3V}{\pi h}}$

Circonferenza e cerchio

$\overline{OB} = R$

$\overline{AB} = 2R = d$

$\beta_1, \beta_2, \beta_3$ ANGOLI CHE INSISTONO SULLA CIRCONFERENZA

α ANGOLO AL CENTRO

$$\alpha = 2\beta_1 = 2\beta_2 = 2\beta_3 = \dots$$

$A\hat{O}B = 180°$ $\quad A\hat{C}B = \frac{A\hat{O}B}{2} = \frac{90°}{2}$

$A\hat{C}B = 90°$

ACB È UN TRIANGOLO RETTANGOLO

Lunghezza della circonferenza

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

$C = \pi \cdot d = 2\pi R$ $\quad R = \frac{C}{2\pi}$

Area del cerchio

$$A = \pi R^2 \Rightarrow R^2 = \frac{A}{\pi} \Rightarrow R = \sqrt{\frac{A}{\pi}}$$

Arco di circonferenza

$C\hat{O}D = \theta$

$\widehat{CD}$

$\alpha = 2\pi$ ANGOLO RETTO A TUTTA C

$l : C = \theta : 360°$

$l : 2\pi R = \theta : 360°$

$\frac{l}{\theta} = \frac{2\pi R}{360°}$

$l = \frac{2\pi R \theta}{360°} \Rightarrow l = \frac{\pi R \theta}{180°}$

$\theta = 45°$

$R = 1\,m$

$l = \frac{\pi \cdot 45°}{180°_4} = \frac{\pi}{4}$