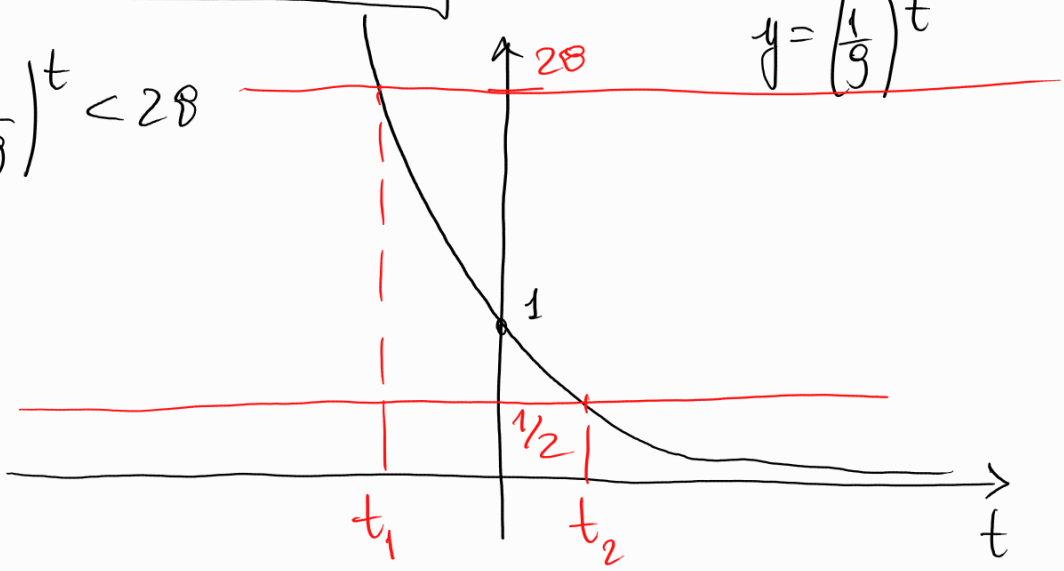
$$\frac{1}{2} \quad \cancel{\frac{1}{3}} \quad < \left(\frac{1}{9}\right)^{\overbrace{2x-3}^{t}} < \cancel{27} \; 28$$

$$\boxed{\frac{1}{2} < \left(\frac{1}{9}\right)^{\overbrace{2x-3}^{t}} < 28}$$

$$\frac{1}{2} < \left(\frac{1}{9}\right)^{t} < 28$$



sotto $\quad t_1 < t < t_2$

t_1 è t.c. $\left(\frac{1}{9}\right)^{t_1} = 28 \iff t_1 = \log_{1/9} 28 < 0$

t_2 è t.c $\left(\frac{1}{9}\right)^{t_2} = \frac{1}{2} \iff t_2 = \log_{1/9} \frac{1}{2} =$

$= -\log_{1/9} 2$

$$\frac{1}{2} < \left(\frac{1}{9}\right)^{t} < 28$$

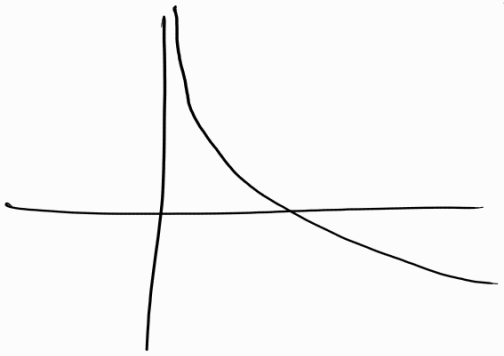
$$\Downarrow \quad \Uparrow$$

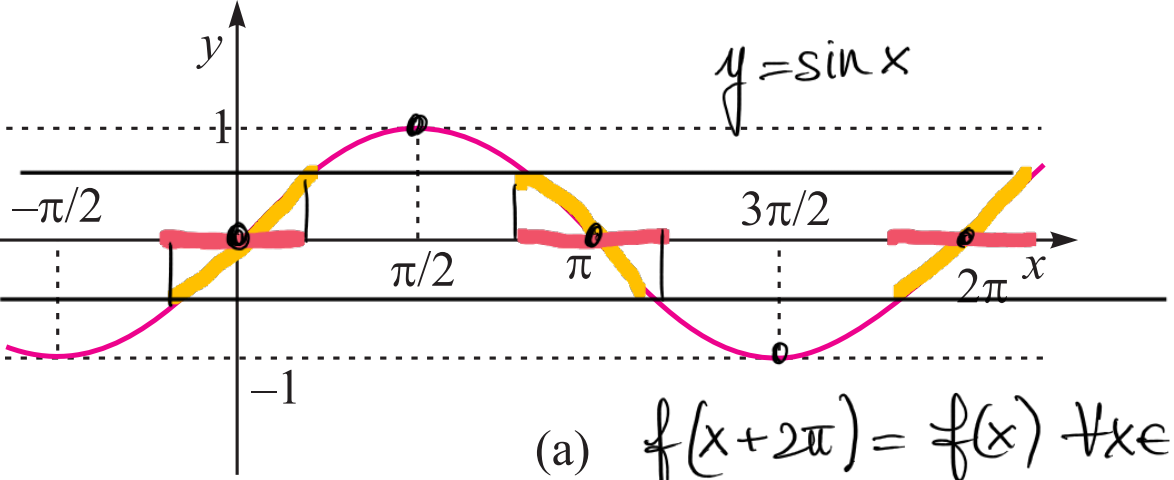
$$\log_{1/9} \frac{1}{2} > t > \log_{1/9} 28$$

$t = 2x - 3$

applico $\log_{1/9} x$ ai 3 termini

(attenzione! è decrescente)

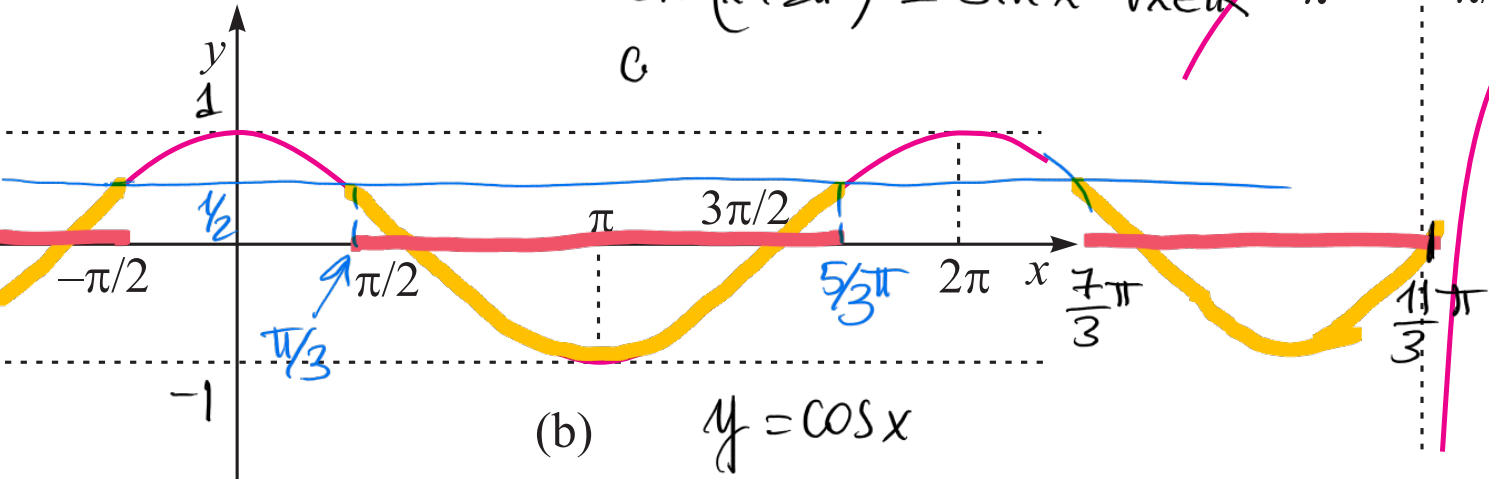




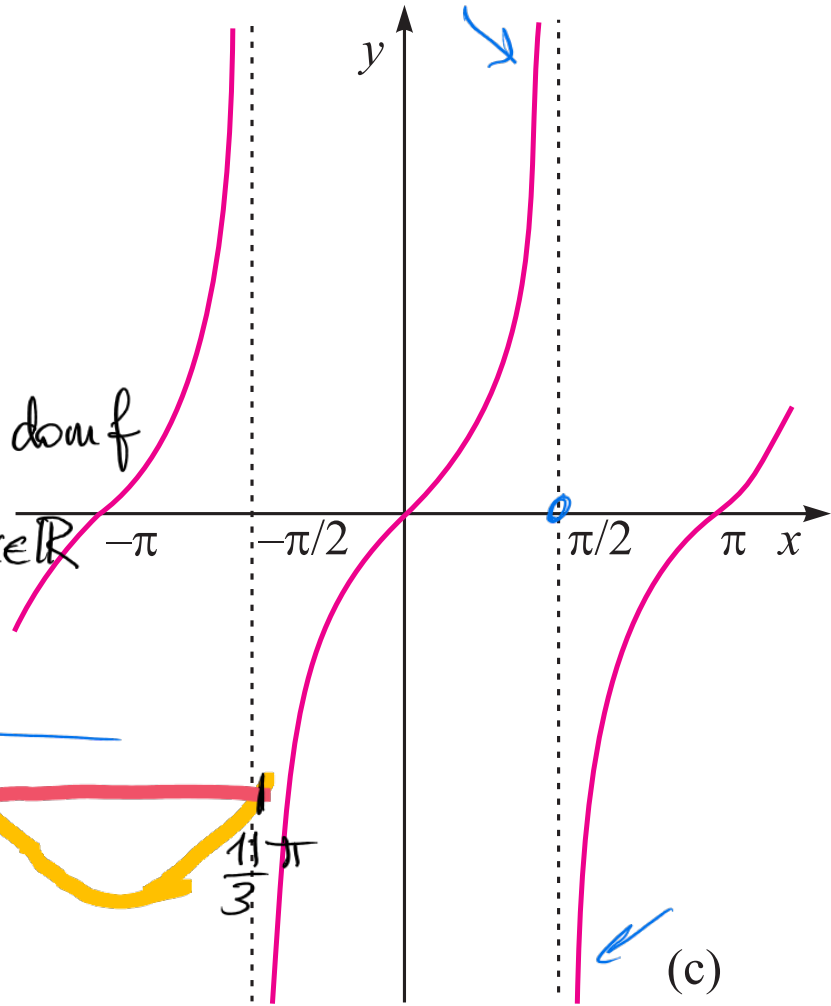
(a) $f(x+2\pi) = f(x) \quad \forall x \in \text{dom } f$

$\sin(x+2\pi) = \sin x \quad \forall x \in \mathbb{R}$

C

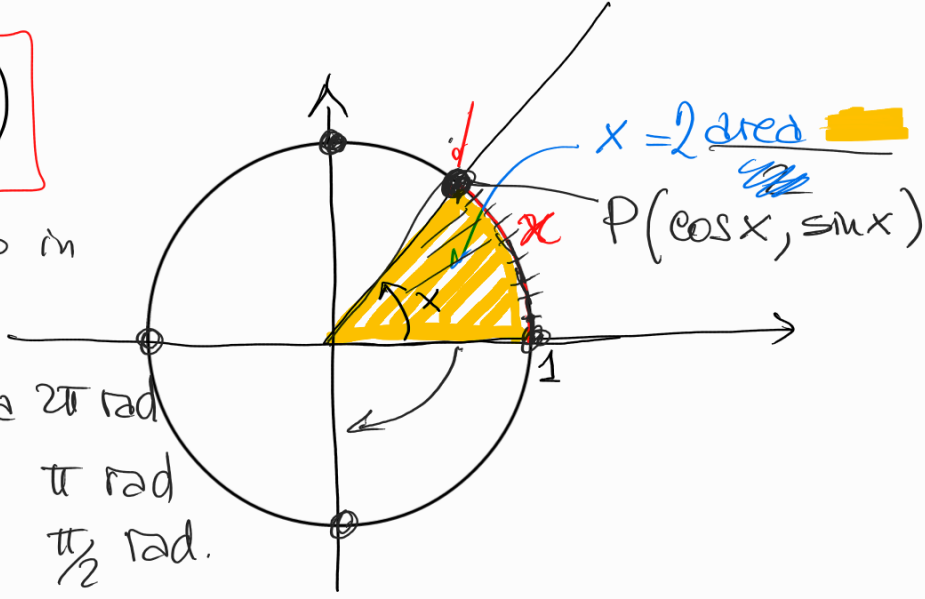


(b) $y = \cos x$



(c)

$$\cos x = \sin\left(x+\frac{\pi}{2}\right)$$



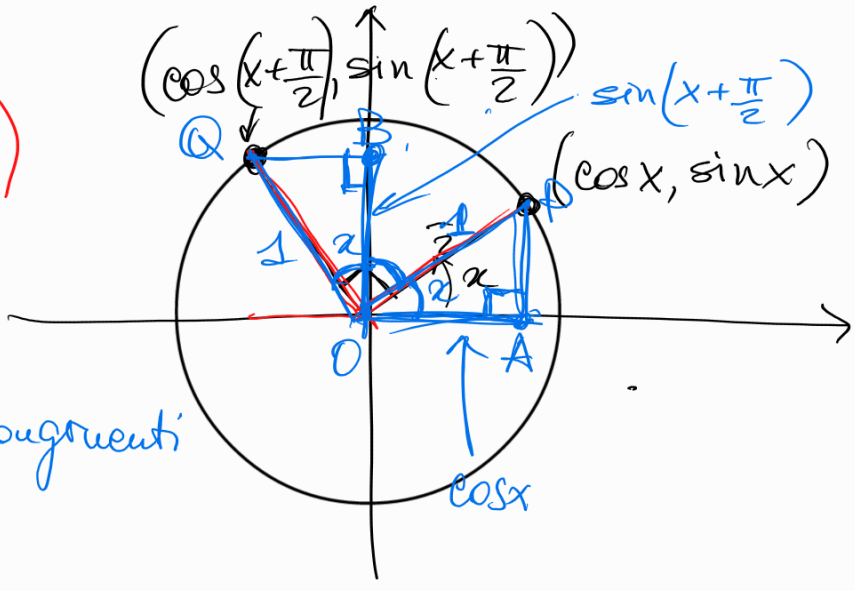
Gli angoli si misurano in radianti

L'angolo giro è pari a 2π rad

piatto π rad

retto $\frac{\pi}{2}$ rad.

$$\cos x = \sin\left(x+\frac{\pi}{2}\right)$$



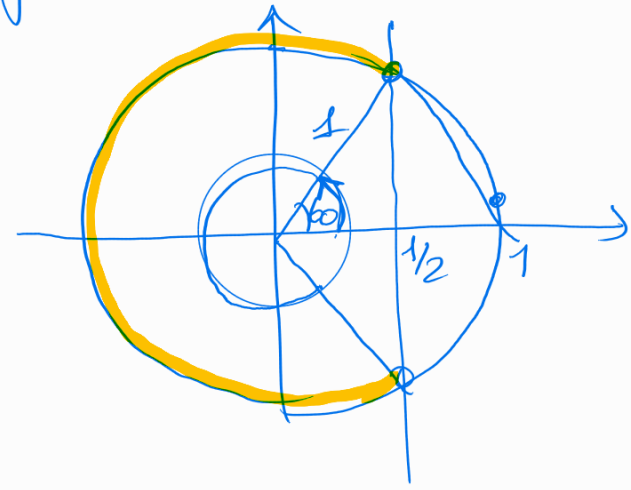
$\triangle OAP$ e $\triangle OBQ$ sono congruenti

$$\Rightarrow \overline{OA} = \overline{OB}$$

$$\cos x = \sin\left(x+\frac{\pi}{2}\right)$$

Equazioni e disequazioni trigonometriche.

$$\cos x \leq \frac{1}{2}$$



cos x rappresenta l'ascissa dei punti della circonferenza

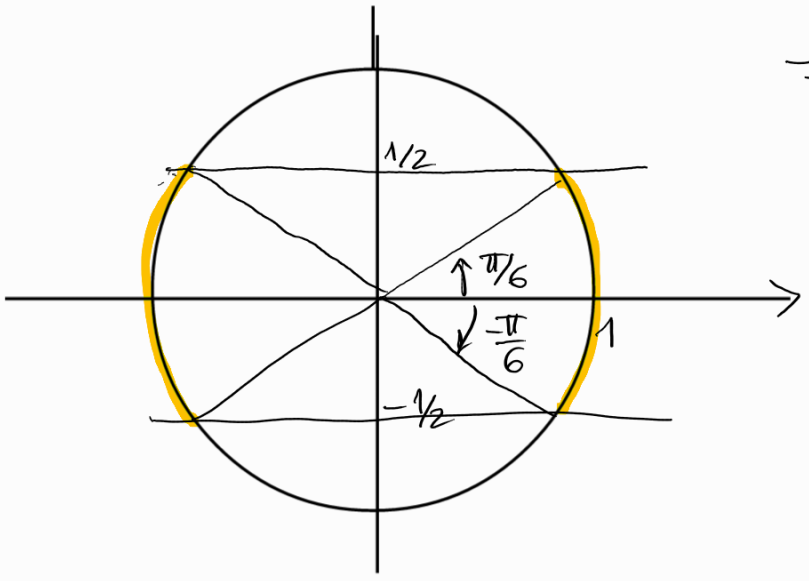
$$\cos\frac{\pi}{3} = \frac{1}{2}$$

$$\frac{\pi}{3} + 2k\pi \leq x \leq \frac{5}{3}\pi + 2k\pi \qquad k \in \mathbb{Z}$$

$$\sin^2 x \leq \frac{1}{4}$$

$$-\frac{1}{2} \leq \sin x \leq \frac{1}{2} \iff$$

$$-\frac{\pi}{6} + k\pi \leq x \leq \frac{\pi}{6} + k\pi \qquad k \in \mathbb{Z}$$



$$\sin^2 x \leq \frac{1}{9}$$

$$\boxed{-\frac{1}{3} \leq \sin x \leq \frac{1}{3}}$$