

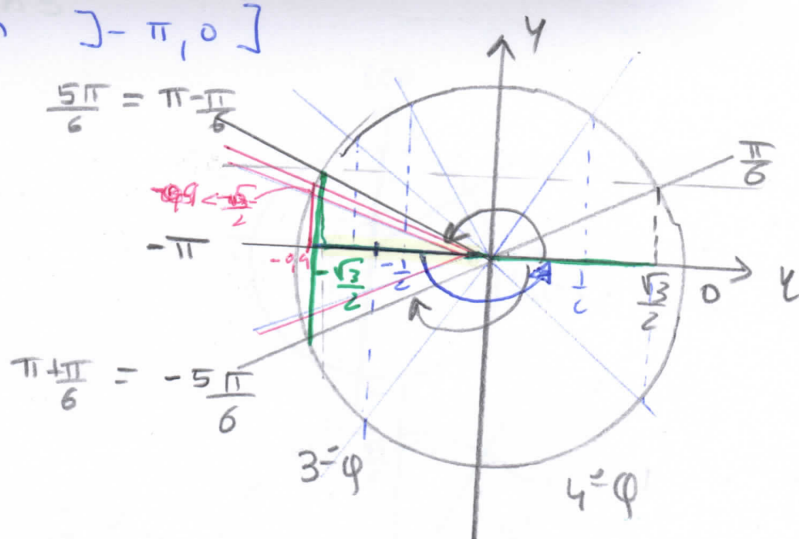
$$2 \cos \alpha + 13 \geq 0 \quad \text{em } ]-\pi, 0]$$

$$\Rightarrow 2 \cos \alpha \geq -\sqrt{3}$$

$$\Rightarrow \cos \alpha \geq -\frac{\sqrt{3}}{2}$$

$$\downarrow \text{em } ]-\pi, 0]$$

$$\Rightarrow \alpha \in \left[-\frac{5\pi}{6}, 0\right]$$



$$\cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$$

— valores para os quais  
 $\cos \alpha = \frac{\sqrt{3}}{2}$

— valores para os quais  
 $\cos \alpha = -\frac{\sqrt{3}}{2}$

$$]-\pi, 0] \subset 3^\circ \text{ e } 4^\circ$$