27

n) $\sin 2x = \cos 60^\circ$

$\sin 2x = \frac{1}{2} \Leftrightarrow 2x = \begin{cases} \frac{\pi}{6} + 2k\pi \\ \frac{5\pi}{6} + 2k\pi \end{cases} \Leftrightarrow$

$\Leftrightarrow x = \begin{cases} \frac{\pi}{12} + k\pi \\ \frac{5\pi}{12} + k\pi \end{cases} \quad k \in \mathbb{Z}$

24 a) ——— b) després del C

c) $\left.\begin{aligned} \sin x + \sin y &= \frac{\sqrt{3}+1}{2} \\ \sin x - \sin y &= \frac{\sqrt{3}-1}{2} \end{aligned}\right\}$

Sumem les dues equacions:

$2\sin x = \frac{2\sqrt{3}}{2} \Leftrightarrow \sin x = \frac{\sqrt{3}}{2} \Leftrightarrow x = \begin{cases} \frac{\pi}{3} + 2k\pi \\ \frac{2\pi}{3} + 2k\pi \end{cases} \quad k \in \mathbb{Z}$

Substituim en la 1a equació:

$\sin y = \frac{\sqrt{3}+1}{2} - \frac{\sqrt{3}}{2} = \frac{1}{2} \Leftrightarrow x = \begin{cases} \frac{\pi}{6} + 2k\pi \\ \frac{5\pi}{6} + 2k\pi \end{cases}$

Tenim 4 ~~parells~~ tipus de solucions

$x = \frac{\pi}{3} + 2k\pi$ i $y = \frac{\pi}{6} + 2k\pi$

$x = \frac{\pi}{3} + 2k\pi$ i $y = \frac{5\pi}{6} + 2k\pi$

$x = \frac{2\pi}{3} + 2k\pi$ i $y = \frac{\pi}{6} + 2k\pi$

$x = \frac{2\pi}{3} + 2k\pi$ i $y = \frac{5\pi}{6} + 2k\pi$