

$$1) \sin\left(x + \frac{\pi}{2}\right) = \frac{1}{2} \text{ avec } -\pi \leq x \leq \pi$$

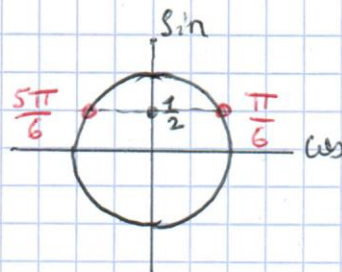
$$x + \frac{\pi}{2} = \frac{\pi}{6} \text{ ou } x + \frac{\pi}{2} = \frac{5\pi}{6}$$

$$x = \frac{\pi}{6} - \frac{\pi}{2} \text{ ou } x = \frac{5\pi}{6} - \frac{\pi}{2}$$

$$x = \frac{\pi}{6} - \frac{3\pi}{6} = -\frac{2\pi}{6} = -\frac{\pi}{3}$$

$$\text{ou } x = \frac{5\pi}{6} - \frac{3\pi}{6} = \frac{2\pi}{6} = \frac{\pi}{3}$$

$$\mathcal{S}_{[-\pi, \pi]} = \left\{-\frac{\pi}{3}, \frac{\pi}{3}\right\}$$

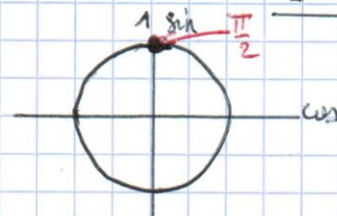


$$2) \sin(x) = 1$$

$$\text{avec } -\pi \leq x \leq \pi$$

$$x = \frac{\pi}{2}$$

$$\mathcal{S}_{[-\pi, \pi]} = \left\{\frac{\pi}{2}\right\}$$



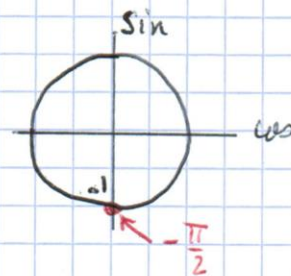
$$3) \sin\left(x - \frac{\pi}{3}\right) = -1 \text{ avec } -\pi \leq x \leq \pi$$

$$x - \frac{\pi}{3} = -\frac{\pi}{2}$$

$$x = -\frac{\pi}{2} + \frac{\pi}{3}$$

$$x = -\frac{3\pi}{6} + \frac{2\pi}{6} = -\frac{\pi}{6}$$

$$\mathcal{S}_{[-\pi, \pi]} = \left\{-\frac{\pi}{6}\right\}$$



$$4) \sin(x) = \frac{\sqrt{2}}{2} \text{ avec } -\pi \leq x \leq \pi$$

$$x = \frac{\pi}{4} \text{ ou } x = \frac{3\pi}{4}$$

$$\mathcal{S}_{[-\pi, \pi]} = \left\{\frac{\pi}{4}, \frac{3\pi}{4}\right\}$$

