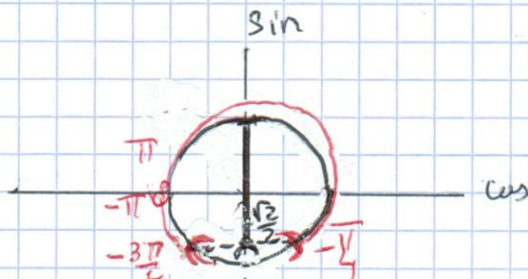


1).



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

$$\text{Soit } X = 2x \quad \text{avec} \quad -\pi \leq X \leq \pi$$

$$\sin(X) > -\frac{\sqrt{2}}{2} \quad \text{avec} \quad -\pi \leq X \leq \pi$$

$$-\pi \leq X < -\frac{3\pi}{4} \quad \text{ou} \quad -\frac{\pi}{4} < X \leq \pi$$

$$-\pi \leq 2x < -\frac{3\pi}{4} \quad \text{ou} \quad -\frac{\pi}{4} < 2x \leq \pi$$

$$-\frac{\pi}{2} \leq x < -\frac{3\pi}{8} \quad \text{ou} \quad -\frac{\pi}{8} < x \leq \frac{\pi}{2}$$

$$S = \left[-\frac{\pi}{2}; -\frac{3\pi}{8}[\cup \left]-\frac{\pi}{8}; \frac{\pi}{2}\right]$$

2)

$$\sin(2x) < \frac{1}{2}$$

$$\text{avec} \quad -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

$$-\pi \leq 2x \leq \pi$$

$$-\pi \leq X \leq \pi$$

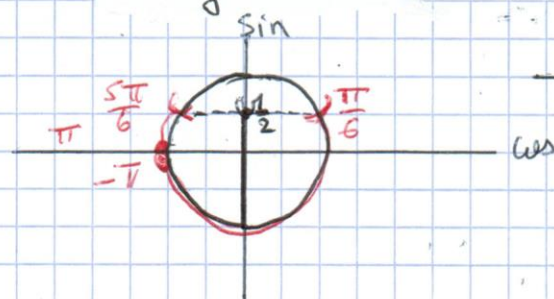
$$\sin(X) < \frac{1}{2}$$

$$-\pi \leq X < \frac{\pi}{6} \quad \text{ou} \quad \frac{5\pi}{6} < X \leq \pi$$

$$-\pi \leq 2x < \frac{\pi}{6} \quad \text{ou} \quad \frac{5\pi}{6} < 2x \leq \pi$$

$$-\frac{\pi}{2} \leq x < \frac{\pi}{12} \quad \text{ou} \quad \frac{5\pi}{12} < x \leq \frac{\pi}{2}$$

$$S = \left[-\frac{\pi}{2}; \frac{\pi}{12}[\cup \left]\frac{5\pi}{12}; \frac{\pi}{2}\right]$$



$$3) \quad \sin(4x) > \frac{1}{2}$$

$$\text{avec} \quad -\frac{\pi}{4} \leq x \leq \frac{\pi}{4}$$

$$-\pi \leq 4x \leq \pi$$

$$\sin(X) > \frac{1}{2}; \quad -\pi \leq X \leq \pi$$

$$\frac{\pi}{6} \leq X \leq \frac{5\pi}{6}$$

$$\frac{\pi}{6} \leq 4x \leq \frac{5\pi}{6}$$

$$\frac{\pi}{24} \leq x \leq \frac{5\pi}{24}$$

$$S = \left[\frac{\pi}{24}; \frac{5\pi}{24}\right]$$

