

$$3\text{ctg}^2 x + \text{ctg}x\sqrt{3} \geq 0$$

$$\text{ctg}x = t$$

$$3t^2 + \sqrt{3}t \geq 0$$

$$\sqrt{3}t(\sqrt{3}t + 1) \geq 0$$

$$t = -1/\sqrt{3}$$

$$t = 0$$

$$t \in (-\infty; -1/\sqrt{3}] \cup [0; +\infty)$$

$$2p/3 + pk \leq x < p + pk$$

$$pk < x \leq p/2 + pk$$