$$\frac{\sin x + 2\cos x - 1}{1 + \operatorname{ctg} 2x - \operatorname{ctg} x} \geq \frac{1}{\operatorname{ctg} x}$$

$$\frac{\sin x + 2\cos x - 1}{1 + 2\operatorname{ctg}^2 x - 1 - \cos x} \geq \frac{1}{\operatorname{ctg} x}$$

$$\frac{\sin x + 2\cos x - 1}{\operatorname{ctg} x (2\operatorname{ctg} x - 1)} - \frac{1}{\cos x} \geq 0$$

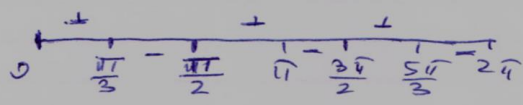
$$\frac{\sin x + 2\cos x - 1 - 2\cos x + 1}{\operatorname{ctg} x (2\cos x - 1)} \geq 0$$

$$\frac{\sin x}{\cos x (2\operatorname{ctg} x - 1)} \geq 0$$

$\sin x = 0$ $\quad x = \pi k$

$\cos x = 0$ $\quad x = \frac{\pi}{2} + \pi k$

$\operatorname{ctg} x = \frac{1}{2}$ $\quad x = \pm \frac{\pi}{3} + 2\pi k$



מהתחום $0 \leq x \leq 2\pi$

$0 \leq x < \frac{\pi}{3}$ $\qquad \frac{\pi}{2} < x \leq \pi$ $\qquad \frac{3\pi}{2} < x < \frac{5\pi}{3}$