

2.5
5

$$\sqrt{3} \sin 3x + \cos 3x = 2 \sin \frac{x}{2} \quad | :2$$

$$\frac{\sqrt{3}}{2} \sin 3x + \frac{1}{2} \cos 3x = \sin \frac{x}{2}$$

$$\cos 30^\circ \sin 3x + \sin 30^\circ \cos 3x = \sin \frac{x}{2}$$

$$\sin(3x+30^\circ) = \sin \frac{x}{2}$$

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

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

$k = 1, 2$

$$x = -\frac{\pi}{18} + \frac{4\pi}{3} k$$

$$x = \frac{5}{21}\pi + \frac{4\pi}{7} k$$

$k = 1, 2, 3$