$$\frac{\sin(4x)+\sin(2x)}{\cos(4x)+\cos(2x)} = \sqrt{3}$$

$$\tan(3x) = \sqrt{3}$$

Results:

$$x = \frac{1}{9}(3\pi n + \pi) \text{ and } n \in \mathbb{Z}$$

Possible intermediate steps:

$$\tan(3x) = \sqrt{3}$$

Take the inverse tangent of both sides:

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

Divide both sides by 3:

$$x = \frac{\pi}{9}$$