

$$\operatorname{tg}^2(3x - \pi/4) = 3$$

$$\sin^2(3x - \pi/4) / \cos^2(3x - \pi/4) = 3$$

$$(1 - \cos(6x - \pi/2)) / (1 + \cos(6x - \pi/2)) = 3$$

$$1 - \cos(6x - \pi/2) = 3(1 + \cos(6x - \pi/2))$$

$$\cos(6x - \pi/2) = -2/4$$

$$\cos(6x - \pi/2) = -1/2$$

$$6x - \pi/2 = \pm 2\pi/3 + 2\pi k$$

$$6x = \pi/2 \pm 2\pi/3 + 2\pi k$$

$$x = \pi/12 \pm \pi/9 + \pi k/3$$

