

$$\sin x - \sin 15x \cdot \cos x = 3/2$$

$$\sqrt{1+\sin^2 15x}(\sin x \cdot 1/\sqrt{1+\sin^2 15x} - \cos x \cdot \sin 15x / \sqrt{1+\sin^2 15x}) = 3/2$$

$$\sqrt{1+\sin^2 15x}(\sin x \cdot \cos a - \cos x \cdot \sin a) = 3/2$$

$$\cos a = 1/\sqrt{1+\sin^2 15x}$$

$$\sin a = \sin 15x / \sqrt{1+\sin^2 15x}$$

$$\sqrt{1+\sin^2 15x} \cdot \sin(x-a) = 3/2$$

$$\max(\sqrt{1+\sin^2 15x}) = \sqrt{2}$$

$$\max(\sin(x-a)) = 1$$

$$\max(\sqrt{1+\sin^2 15x} \cdot \sin(x-a)) = 3/2$$

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