

$$(1-3\sin^2 x) / \sin^2 x = 5\operatorname{ctg} x$$

$$1/\sin^2 x - 5\operatorname{ctg} x - 3 = 0$$

$$1 + \operatorname{ctg}^2(x) - 5\operatorname{ctg} x - 3 = 0$$

$$\operatorname{ctg} x = y$$

$$y^2 - 5y - 2 = 0$$

$$D = 33$$

$$y_1 = (5 + \sqrt{33})/2$$

$$y_2 = (5 - \sqrt{33})/2$$

$$\operatorname{ctg} x = (5 + \sqrt{33})/2$$

$$x = \operatorname{arcctg}((5 + \sqrt{33})/2) + Pk$$

$$\operatorname{ctg} x = (5 - \sqrt{33})/2$$

$$x = \operatorname{arcctg}((5 - \sqrt{33})/2) + Pk$$

$$1 + \operatorname{ctg}^2(x) = 1 + \cos^2 x / \sin^2 x = \\ = (\sin^2 x + \cos^2 x) / \sin^2 x = 1 / \sin^2 x$$

