

$$\sin x \cdot \operatorname{ctg} y = \sqrt{6}/2$$

$$\operatorname{tg} x \cdot \cos y = \sqrt{3}/2$$

$$\sin x / \operatorname{tg} y = \sqrt{6}/2$$

$$\operatorname{tg} y = 2 \sin x / \sqrt{6}$$

$$\operatorname{tg} x \cdot \cos y = \sqrt{3}/2$$

$$\cos y = \sqrt{3}/2 \operatorname{tg} x$$

$$\operatorname{tg}^2 y = 4 \sin^2 x / 6$$

$$\cos^2 y = 3/4 \operatorname{tg}^2 x$$

$$1 + 4 \sin^2 x / 6 = 4 \operatorname{tg}^2 x / 3$$

$$10 \sin^2 x / 6 + \cos^2 x = 4 \operatorname{tg}^2 x / 3$$

$$10 \sin^2 x / 6 + \cos^2 x = 4 \sin^2 x / 3 \cos^2 x$$

$$3 \cos^2 x \neq 0$$

$$\cos x = 0$$

$$10 \sin^2 x \cdot \cos^2 x + 6 \cos^4 x = 8 \sin^2 x$$

$$(10 - 10 \cos^2) \cdot \cos^2 x + 6 \cos^4 x = 8 - 8 \cos^2 x$$

$$a = \cos^2 x$$

$$(10 - 10a)a + 6a^2 = 8 - 8a$$

$$10a - 10a^2 + 6a^2 = 8 - 8a$$

$$18a - 4a^2 - 8 = 0$$

$$4a^2 - 18a + 8 = 0$$

$$2a^2 - 9a + 4 = 0$$

$$D = 81 - 32 = 49$$

$$a_1 = (9 + 7) / 4 = 4$$

$$a_2 = (9 - 7) / 4 = 1/2$$

$$\cos^2 x = 4$$

$$\cos x = 2 - \text{не подходит}$$

$$\cos^2 x = 1/2$$

$$\cos x = \pm 1/\sqrt{2} = \pm \sqrt{2}/2$$

$$x_1 = \pi/4 + \pi k$$

$$x_2 = 3\pi/4 + \pi k$$

$$\cos y = \sqrt{3}/2$$

$$y = \pm \pi/6 + 2\pi n$$

$$\cos y = -\sqrt{3}/2$$

$$y = \pm 5\pi/6 + 2\pi n$$

Ответ: $(\pi/4 + \pi k; \pm \pi/6 + 2\pi n)$
 $(3\pi/4 + \pi k; \pm 5\pi/6 + 2\pi n)$

