

$$2\sin^2 x + \sin(x^2) = 1$$

$$2(1 - \cos 2x)/2 + \sin(x^2) = 1$$

$$\sin(x^2) - \cos 2x = 0$$

$$\cos w = \sin(w + P/2) = \sin w \cos P/2 + \sin P/2 \cos w$$

$$\cos w = \sin(P/2 - w) = \sin P/2 \cos w - \cos P/2 \sin w$$

$$\sin(x^2) - \sin(P/2 - 2x) = 0$$

$$2 \cos((x^2 - 2x + P/2)/2) \sin((x^2 - P/2 + 2x)/2) = 0$$

$$\cos((x^2 - 2x + P/2)/2) = 0$$

$$x^2 - 2x + P/2 = P + 2Pk$$

$$x^2 - 2x = P + 2Pk - P/2$$

$$x^2 - 2x + 1 - 1 = P/2 + 2Pk$$

$$(x-1)^2 - \sqrt{(P/2 + 2Pk + 1)}^2 = 0$$

$$(x-1 - \sqrt{(P/2 + 2Pk + 1)})(x-1 + \sqrt{(P/2 + 2Pk + 1)}) = 0$$

$$x = 1 + \sqrt{(P/2 + 2Pk + 1)}$$

$$x = 1 - \sqrt{(P/2 + 2Pk + 1)}$$

$$k \geq 0$$

$$\sin(x^2 - P/2 + 2x)/2 = 0$$

$$x^2 - P/2 + 2x = 2Pk$$

$$(x^2 + 2x + 1) - (1 + 2Pk + P/2) = 0$$

$$(x+1)^2 - (1 + 2Pk + P/2) = 0$$

$$(x+1 - \sqrt{(1 + 2Pk + P/2)})(x+1 + \sqrt{(1 + 2Pk + P/2)}) = 0$$

$$x = 1 + \sqrt{(1 + 2Pk + P/2)}$$

$$x = -1 - \sqrt{(1 + 2Pk + P/2)} \quad k \geq 0$$

$$\operatorname{tg}(P/2(\cos x)) = \operatorname{ctg}(P/2(\sin x))$$

$$\sin(p/2 \cos x) / \cos(p/2 \cos x) = \cos(p/2 \sin x) / \sin(P/2 \sin x)$$

$$\{\sin(p/2 \cos x) \sin(P/2 \sin x) - \cos(p/2 \sin x) \cos(p/2 \cos x)\} / \sin(P/2 \sin x) \cos(p/2 \cos x) = 0$$

$$-1 \{\cos(p/2 \sin x) \cos(p/2 \cos x) - \sin(p/2 \cos x) \sin(P/2 \sin x)\} / \sin(P/2 \sin x) \cos(p/2 \cos x) = 0$$

$$-1 (\cos\{p/2 \sin x + p/2 \cos x\} / \sin(P/2 \sin x) \cos(p/2 \cos x)) = 0$$

$$\sin(P/2 \sin x) \cos(p/2 \cos x) \neq 0$$

$$\cos\{p/2 \sin x + p/2 \cos x\} = 0$$

$$p/2 \sin x + p/2 \cos x = P/2 + Pk$$

$$\sin x + \cos x = 1 + 2k$$

$$\sqrt{2}(\sin x \cdot 1/\sqrt{2} + \cos x \cdot 1/\sqrt{2}) = \sqrt{2}(\sin x \cos P/4 + \cos x \sin P/4) = \sqrt{2} \sin(x + P/4)$$

$$\sin(x + P/4) = (1 + 2k) / \sqrt{2}$$

$$|z| \leq 1$$

$$z \geq -1$$

$$z \leq 1$$

$$(1 + 2k) / \sqrt{2} \leq 1$$

$$k \leq (\sqrt{2} - 1) / 2$$

$$(1 + 2k) / \sqrt{2} \geq -1$$

$$k \geq -(\sqrt{2} + 1) / 2$$

$$k = 0; -1$$

$$\sin(x + P/4) = \sqrt{2}/2$$

$$x + p/4 = P/4 + 2Pk$$

$$\underline{x = 2Pk - \text{отбрасываем по ОДЗ}}$$

$$x + p/4 = 3P/4 + 2Pk$$

$$\underline{x = P/2 + 2Pk}$$

$$\sin(x + P/4) = -1/\sqrt{2}$$

$$\sin(x + P/4) = -\sqrt{2}/2$$

$$x + P/4 = 5P/4 + 2Pk$$

$$\underline{x = P + 2Pk - \text{отбрасываем по ОДЗ}}$$

$$x + P/4 = 7P/4 + 2Pk$$

$$\underline{x = 3P/2 + 2Pk}$$

$$\sin(P/2 \sin x) \cos(p/2 \cos x) \neq 0$$

$$\sin(p/2 \sin x) = 0$$

$$(P/2) \sin x = Pk$$

$$\sin x = 2k$$

$$k = 0$$

$$\sin x = 0$$

$$x = Pk$$

$$\cos(p/2 \cos x) = 0$$

$$P/2 \cos x = P/2 + Pk$$

$$\cos x = 1 + 2k$$

$$k = 0$$

$$\cos x = 1$$

$$x = 2Pk$$

$$\text{ОТВЕТ } \underline{x = P/2 + Pk}$$