

$$\sin x \cdot \cos y = \frac{1}{2}(\sin(x+y) + \sin(x-y))$$

$$\cos x \cdot \cos 2x \cdot \cos 4x \cdot \cos 8x = \frac{1}{8} \cos 15x$$

$$8 \cdot \cos x \cdot \cos 2x \cdot \cos 4x \cdot \cos 8x = \cos 15x \cdot \sin x$$

$$8 \cdot \cos x \cdot \cos 2x \cdot \cos 4x \cdot \cos 8x \cdot \sin x = \cos 15x \cdot \sin x$$

$$4 \cdot \sin 2x \cdot \cos 2x \cdot \cos 4x \cdot \cos 8x = \cos 15x \cdot \sin x$$

$$\sin 8x \cdot \cos 8x = \cos 15x \cdot \sin x$$

$$\sin 16x = 2 \cos 15x \cdot \sin x$$

$$\sin 16x = (\sin(15x+x) + \sin(x-15x))$$

$$\sin 16x = \sin 16x - \sin 14x$$

$$\sin 14x = 0$$

$$14x = Pk$$

$$x = Pk/14$$

$$\sin x = 0$$

$$x = Pk$$

$$\cos 0 \cdot \cos 0 \cdot \cos 0 \cdot \cos 0 = \frac{1}{8} \cos 0$$

$$1 = \frac{1}{8}$$

$$\cos P \cdot \cos 2P \cdot \cos 4P \cdot \cos 8P = \frac{1}{8} \cos 15P$$

$$-1 = -\frac{1}{8}$$

ОТВЕТ: $Pk/14$, где $k \neq 14t$

$$\cos x - \cos y = -2 \sin\left(\frac{x+y}{2}\right) \cdot \sin\left(\frac{x-y}{2}\right)$$

$$\sin x - \sin y = 2 \sin\left(\frac{x-y}{2}\right) \cdot \cos\left(\frac{x+y}{2}\right)$$

$$\sin x + \sin y = 2 \sin\left(\frac{x+y}{2}\right) \cdot \cos\left(\frac{x-y}{2}\right)$$

$$\sin y + \cos 3y = 1 - 2 \sin^2 y + \sin 2y$$

$$\sin y + \cos 3y = \cos 2y + \sin 2y$$

$$\sin y - \sin 2y = \cos 2y - \cos 3y$$

$$2 \sin\left(\frac{y-2y}{2}\right) \cdot \cos\left(\frac{y+2y}{2}\right) = -2 \sin\left(\frac{2y+3y}{2}\right) \cdot \sin\left(\frac{2y-3y}{2}\right)$$

$$2 \sin(-y/2) \cdot \cos(3y/2) = -2 \sin(5y/2) \cdot \sin(-y/2)$$

$$-2 \sin(y/2) (\cos(3y/2) + \sin(5y/2)) = 0$$

$$\sin(y/2) = 0$$

$$y/2 = Pk$$

$$y = 2Pk$$

$$\cos(3y/2) + \sin(5y/2) = 0$$

$$\sin(P/2 - 3y/2) + \sin(5y/2) = 0$$

$$2 \sin\left(\frac{P/2 - 3y/2 + 5y/2}{2}\right) \cdot \cos\left(\frac{P/2 - 3y/2 - 5y/2}{2}\right) = 0$$

$$2 \sin\left(\frac{P+2y}{4}\right) \cdot \cos\left(\frac{P-8y}{4}\right) = 0$$

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

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

$$2 \sin\left(\frac{P+2y}{4}\right) = 0 \quad \cos\left(\frac{P-8y}{4}\right) = 0$$

$$\frac{P+2y}{4} = Pk$$

$$\frac{P}{4} + \frac{y}{2} = Pk$$

$$y = 2Pk - P/2$$

$$\frac{P-8y}{4} = P/2 + Pk$$

$$P - 8y = 2P + 4Pk$$

$$y = P/8 - P/4 + Pk/2$$

$$y = (-P + 4Pk)/8$$

ОТВЕТ: $2Pk$; $2Pk - P/2$; $(-P + 4Pk)/8$