

$$4\cos^2 x - 4\cos^2 3x + \cos^2 3x = 0$$

$$D/4 = (2\cos^2 3x)^2 - 4\cos^2 3x = 4\cos^4 3x - 4\cos^2 3x = 4\cos^2 3x(\cos^2 3x - 1) = -4\cos^2 3x \sin^2 3x \geq 0$$

$$-4\cos^2 3x \sin^2 3x = 0$$

$$\cos 3x = 0 \quad 3x = \pi/2 + \pi k \quad x = \pi/6 + \pi k/3$$

$$\sin 3x = 0 \quad 3x = \pi k \quad x = \pi k/3$$

$$4\cos^2 3x \sin^2 3x = 0$$

$$(2\cos 3x \sin 3x)^2 = 0$$

$$\sin 6x = 0$$

$$x = \pi k/6$$

$$\cos x = 2\cos^2 3x/4 = (\cos^2 3x)/2$$

$$2\cos x - \cos^2 3x = 0$$

$$2\cos x - (1 + \cos 6x)/2 = 0$$

$$4\cos x - 1 - \cos 6x = 0$$

$$4\cos x - \cos 6x - 1 = 0$$

$$4\cos \pi k/6 - \cos \pi k = 1$$

$$4\cos \pi/6 - \cos \pi = 1$$

$$4\sqrt{3}/2 - 1 = 1$$

$$4\cos \pi/3 - \cos 2\pi = 1$$

$$2 - 1 = 1$$

$$4\cos \pi/2 - \cos \pi = 1$$

$$0 - 1 = 1$$

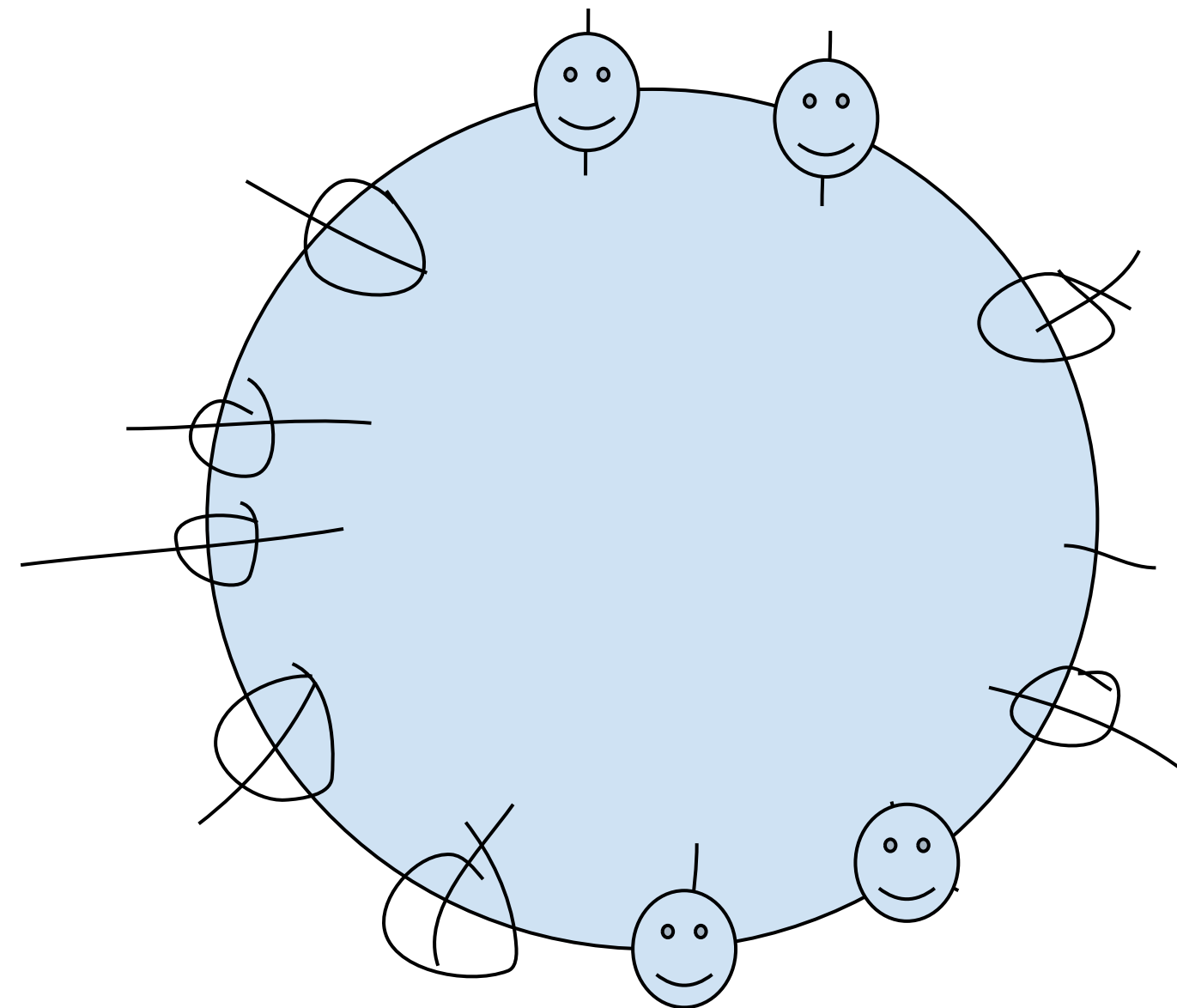
$$4\cos 2\pi/3 - \cos 4\pi = 1$$

$$4 \cdot (-1/2) - 1 = 0$$

$$2\sqrt{3} + 1 \neq 1$$

$$-4 - 1 \neq 1$$

$$4 - 1 \neq 1$$



OTBET:  $+\pi/3 + 2\pi k; \pi/2 + \pi k$