

$$\textcircled{2} a) x(0) = \cos\left(\frac{0\pi}{2}\right) = 1$$

$$x(2) = \cos\left(\frac{2\pi}{2}\right) = -1$$

$$x(1) = \cos\left(\frac{1\pi}{2}\right) = 0$$

$$x(3) = \cos\left(\frac{3\pi}{2}\right) = 0$$

$$X[k] = 1 - e^{-jka\pi \cdot 2}$$