$$w = e^{-j\frac{2\pi}{6}}$$

$$X_{s}[0] = 9$$

$$\tilde{X}_{s}[0] = 5w^{0} + 4w^{3}$$

$$X_{s}[1] = 7$$

$$\tilde{X}_{s}[1] = 7w^{4}$$

$$X_{s}[2] = 0$$

$$\tilde{X}_{s}[2] = 0$$

$$\tilde{X}_{s}[3] = 5w^{0} + 7w^{4}$$

$$Z_{s}[0] = 5w^{0} + 7w^{4}$$

$$Z_{s}[1] = 4$$

$$\tilde{Z}_{s}[1] = 4w^{3}$$