Sol:)

$W[k] = Im\{X[k]\} =$

$$-3\,sen\left(\frac{2k\pi}{6}\right) - 2\,sen\left(\frac{2k\pi \cdot 2}{6}\right) - sen\left(\frac{2k\pi \cdot 3}{6}\right) = W[k]$$

$$W[k] = -3\,sen\left(\frac{2k\pi}{6}\right) - 2\,sen\left(\frac{4k\pi}{6}\right) - sen\left(\frac{6k\pi}{6}\right) \Big|_{0 \le k \le 5}$$

$W[0] = 0$

$W[1] = -\frac{5\sqrt{3}}{2}$

$W[2] = -\frac{\sqrt{3}}{2}$

$W[3] = 0$

$W[4] = \frac{\sqrt{3}}{2}$

$W[5] = \frac{5\sqrt{3}}{2}$

W(n) img (calculada com octave)