EXERCISE 6.1: When the sequence of coefficients is symmetrical ($b_0 = b_M$, $b_1 = b_{M-1}$, etc.), the frequency response can be manipulated as in Example 6-1. Following the style of that example, show that the frequency response of an FIR filter with coefficients $\{b_k\} = \{1, -2, 4, -2, 1\}$ can be expressed as

$$H(e^{j\hat{\omega}}) = [4 - 4\cos(\hat{\omega}) + 2\cos(2\hat{\omega})]e^{-j2\hat{\omega}}$$

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