Question 1   **1 pts**

Based on Questions 1 and 2 on the worksheet, for $p \neq 0, \frac{N}{2}$, the Fourier coefficient a_p is

○ $\sum_{t=1}^{N} x_t \cos(\omega_p t)$

○ $\frac{N}{2} \sum_{t=1}^{N} x_t \cos(\omega_p t)$

○ $\frac{2}{N} \sum_{t=1}^{N} x_t \cos(\omega_p t)$

○ $\frac{1}{N} \sum_{t=1}^{N} x_t \cos(\omega_p t)$

Question 2   **1 pts**

Based on Questions 1 and 2 on the worksheet, the Fourier coefficient a_0 is

○ 0

○ $\sum_{t=1}^{N} x_t$

○ $\bar{x}$

○ $\frac{1}{N} \sum_{t=1}^{N} (-1)^t x_t$

Question 3   1 pts

Based on Questions 1 and 2 on the worksheet, the Fourier coefficient $a_{\frac{N}{2}}$ is

- 0
- $\sum_{t=1}^{N} x_t$
- $\bar{x}$
- $\frac{1}{N} \sum_{t=1}^{N} (-1)^t x_t$

Question 4   1 pts

Based on Question 3 on the worksheet, for $p \neq 0, \frac{N}{2}$, the Fourier coefficient b_p is

- $\sum_{t=1}^{N} x_t \sin(\omega_p t)$
- $\frac{N}{2} \sum_{t=1}^{N} x_t \sin(\omega_p t)$
- $\frac{2}{N} \sum_{t=1}^{N} x_t \sin(\omega_p t)$
- $\frac{1}{N} \sum_{t=1}^{N} x_t \sin(\omega_p t)$

Question 5   **1 pts**

Based on Question 3 on the worksheet, the Fourier coefficient b_0 is

○ 0

○ $\sum_{t=1}^{N} x_t$

○ $\bar{x}$

○ $\frac{1}{N} \sum_{t=1}^{N} (-1)^t x_t$

Question 6   **1 pts**

Based on Question 3 on the worksheet, the Fourier coefficient $b_{\frac{N}{2}}$ is

○ 0

○ $\sum_{t=1}^{N} x_t$

○ $\bar{x}$

○ $\frac{1}{N} \sum_{t=1}^{N} (-1)^t x_t$