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Question 2:

Determine the fundamental period of the sinusoidal sequence x[n] = A sin(ω0n) for the following values of the angular frequency ω0

1. 0.6π b) 0.28π c) 0.45π d) 0.55π e) 0.65π

**Solution**

1. **0.6** π
W0N = 2 π K 🡺 N = $\frac{2 πK}{W0}$
* **N =** $\frac{20}{6}K$ **; for K = 3 , N = 10**
1. 0.28π
W0N = 2 π K 🡺 N = $\frac{2 πK}{W0}$
* **N =** $\frac{50}{7}K$ **; for K = 7 , N = 50**
1. 0.55π
W0N = 2 π K 🡺 N = $\frac{2 πK}{W0}$
* **N =** $\frac{40}{11}K$ **; for K = 11 , N = 40**
1. 0.65π
W0N = 2 π K 🡺 N = $\frac{2 πK}{W0}$
* **N =** $\frac{40}{13}K$ **; for K = 13 , N = 40**