

Suppose a fair 100-sided die is rolled once and the resulting value is called X . That is, $X \in \{1, 2, 3, \dots, 100\}$. What is the variance of $\sin(\pi X/2)$?

- (a) $1/2$
- (b) $1/4$
- (c) 1
- (d) 2
- (e) 100
- (f) 50
- (g) 25
- (h) $\sqrt{2}$
- (i) $1/8$
- (j) 4
- (k) $25/2$
- (l) None of these