

130. Bob is a carnival operator of a game in which a player receives a prize worth $W = 2^N$ if the player has N successes, $N = 0, 1, 2, 3, \dots$. Bob models the probability of success for a player as follows:

- (i) N has a Poisson distribution with mean λ .
- (ii) λ has a uniform distribution on the interval $(0, 4)$.

Calculate $E[W]$.

- (A) 5
- (B) 7
- (C) 9
- (D) 11
- (E) 13