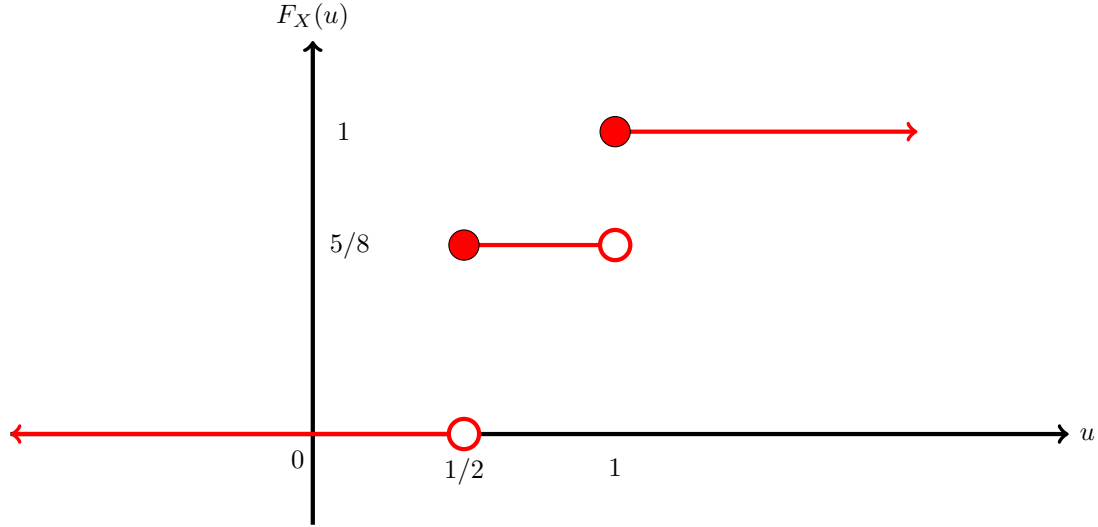


An experiment has a sample space $S = \{\text{red}, \text{blue}, \text{green}\}$ with probabilities $P(\{\text{red}\}) = 1/2$, $P(\{\text{blue}\}) = 3/8$, $P(\{\text{green}\}) = 1/8$. The cumulative distribution function (CDF) of a random variable X on S is shown below.



Which of the following could be true about X ?

- (a) $X(\text{red}) = 1/2$, $X(\text{blue}) = 1$, $X(\text{green}) = 1/2$.
- (b) $X(\text{red}) = 1$, $X(\text{blue}) = 1/2$, $X(\text{green}) = 1$.
- (c) $X(\text{red}) = 0$, $X(\text{blue}) = 1$, $X(\text{green}) = 1$.
- (d) $X(\text{red}) = 1/2$, $X(\text{blue}) = 1$, $X(\text{green}) = 1$.
- (e) $X(\text{red}) = 1$, $X(\text{blue}) = 1/2$, $X(\text{green}) = 1/2$.
- (f) $X(\text{red}) = 1/2$, $X(\text{blue}) = 3/8$, $X(\text{green}) = 1/8$.
- (g) $X(\text{red}) = 1/8$, $X(\text{blue}) = 3/8$, $X(\text{green}) = 1/2$.
- (h) $X(\text{red}) = 0$, $X(\text{blue}) = 5/8$, $X(\text{green}) = 1$.
- (i) $X(\text{red}) = 1$, $X(\text{blue}) = 5/8$, $X(\text{green}) = 0$.
- (j) $X(\text{red}) = 1/2$, $X(\text{blue}) = 5/8$, $X(\text{green}) = 1$.
- (k) $X(\text{red}) = 1$, $X(\text{blue}) = 5/8$, $X(\text{green}) = 1$.
- (l) $X(\text{red}) = 1/2$, $X(\text{blue}) = 5/8$, $X(\text{green}) = 1/2$.