

Suppose you flip a fair coin two times. Let X be the number of Heads you get and let $Y = 2 - X$. Which of the following is correct?

- (a) X and Y have the same probability mass functions.
- (b) Y does not have a probability mass function.
- (c) Y is not a random variable.
- (d) X is not a random variable.
- (e) The probability that $X = Y$ is zero.
- (f) The probability that $XY = 0$ is zero.
- (g) The probability that $X + Y = 2$ is one half.
- (h) X and Y are the same random variable.
- (i) X and Y are events.
- (j) Y is always larger than X .
- (k) None of these