

Suppose you flip a fair coin six times. Let  $X$  be the number of Heads you get, and let  $Y$  be the number of Tails minus the number of Heads. What is the probability that  $X = Y$  ?

- (a)  $15/64$
- (b)  $15/32$
- (c)  $15/16$
- (d)  $15/128$
- (e)  $5/64$
- (f)  $3/64$
- (g)  $1/2$
- (h)  $1/3$
- (i)  $1/15$
- (j) None of these