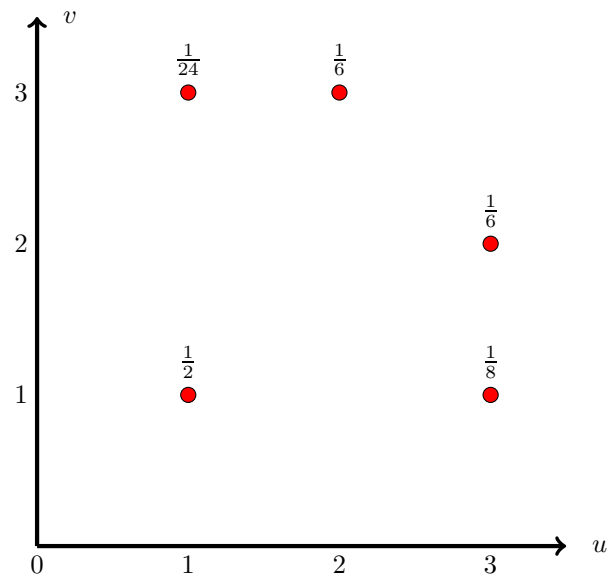
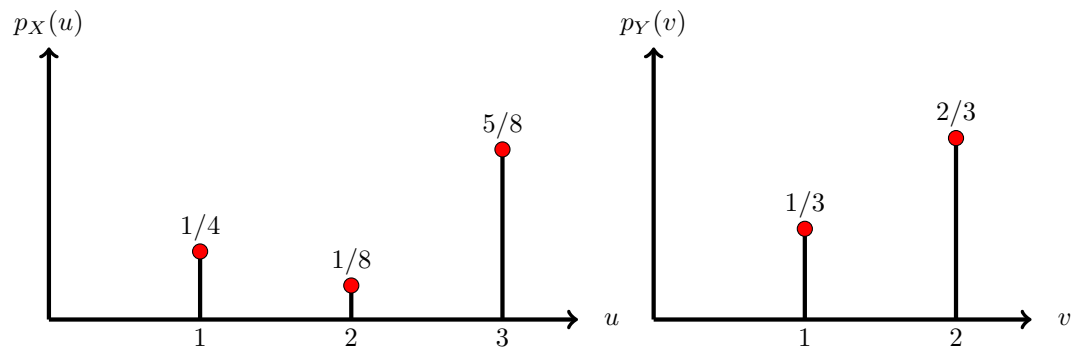


If, X and Y have joint probability mass function shown below, then what is the expected value of $\max(X, Y)$?



- (a) 2
- (b) 3
- (c) 1
- (d) $3/2$
- (e) $4/3$
- (f) $5/2$
- (g) $25/24$
- (h) $8/5$
- (i) $5/8$
- (j) $7/4$
- (k) $9/5$
- (l) None of these

Suppose X and Y are independent random variables whose probability mass functions are shown below. What is the probability that X is larger than Y^2 ?



- (a) $1/4$
- (b) $1/2$
- (c) $1/3$
- (d) $1/6$
- (e) $1/8$
- (f) $1/12$
- (g) $3/4$
- (h) $2/3$
- (i) $3/8$
- (j) $1/24$
- (k) $5/24$
- (l) None of these

Suppose X and Y are i.i.d. random variables, each with probability density function uniform on the interval $[-1, 2]$. What is the probability that X^2 is greater than $2Y$?

- (a) None of these
- (b) $1/6$
- (c) $1/3$
- (d) $5/12$
- (e) $2/3$
- (f) $5/6$
- (g) $1/12$
- (h) $1/4$
- (i) $3/4$
- (j) $1/9$
- (k) $2/9$
- (l) $4/9$