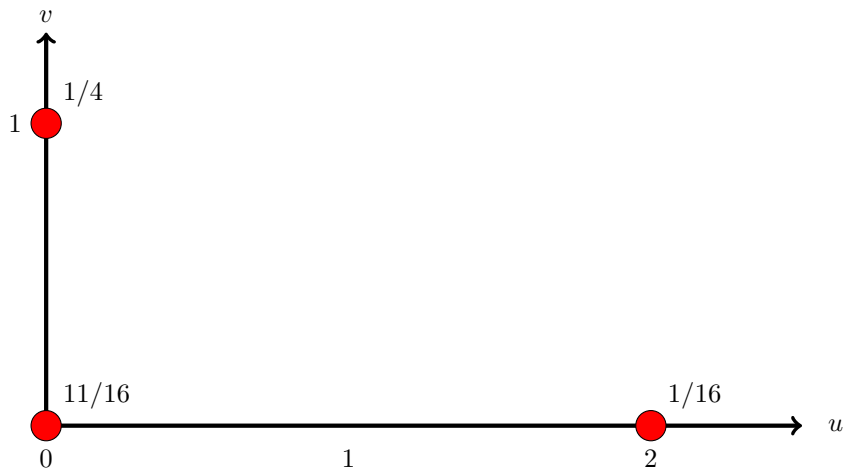
Random variables X and Y have joint probability mass function $p_{X,Y}(u,v)$ shown below. What is the expected value of $X/(Y+1)$?



(a) 1/8

(b) 1/4

(c) 3/4

(d) 3/2

(e) 1/2

(f) 2

(g) 1/3

(h) 0

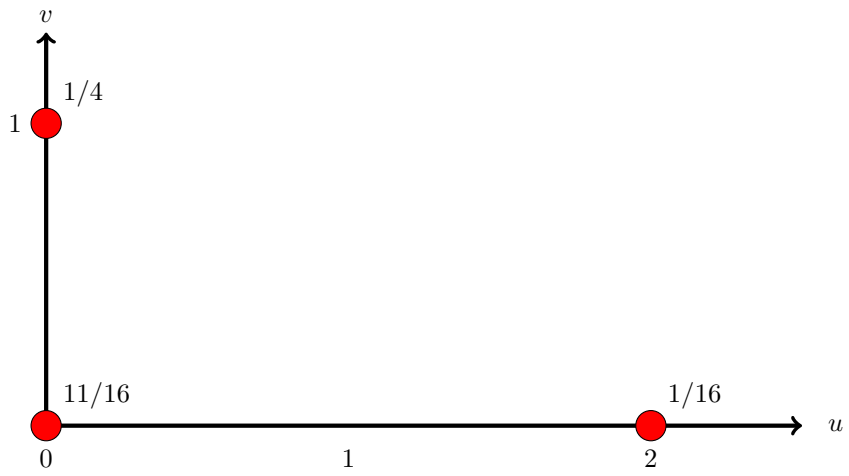
(i) 1/16

(j) 3/16

(k) 5/16

(l) None of these

Random variables X and Y have joint probability mass function $p_{X,Y}(u,v)$ shown below. What is their correlation coefficient $\rho_{X,Y}$?



(a) $\frac{-1}{3\sqrt{5}}$

(b) $\frac{1}{3\sqrt{5}}$

(c) $\frac{-1}{\sqrt{5}}$

(d) $\frac{1}{\sqrt{5}}$

(e) 3/5

(f) $-3/5$

(g) 1/3

(h) $-1/3$

(i) 0

(j) 1/16

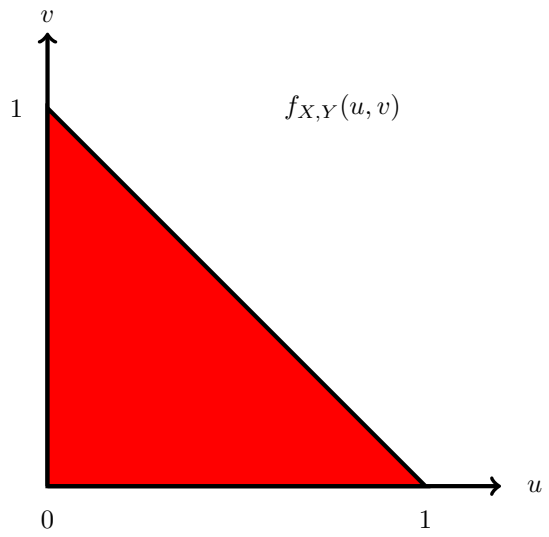
(k) 3/16

(l) 5/16

(m) 1/8

(n) None of these

Random variables X and Y have joint probability density function $f_{X,Y}(u,v)$ which is uniform on the red area in the figure below. What is the expected value of their product?



(a) 1/12

(b) 1/48

(c) 1/24

(d) 1/4

(e) 1/96

(f) 1/6

(g) 1/3

(h) 2/3

(i) 1/2

(j) 3/4

(k) 1/8

(l) None of these