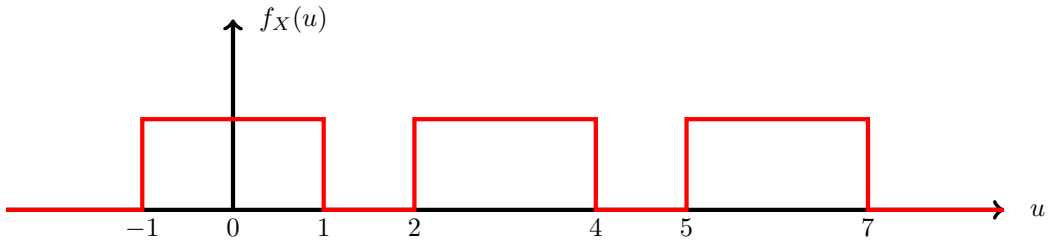
If random variable X has probability density function shown below, then what is the variance of $E[X^2 - 2X + 1]$?



(a) 0

(b) 1

(c) 2

(d) 3

(e) 4

(f) 5

(g) 1/2

(h) 3/2

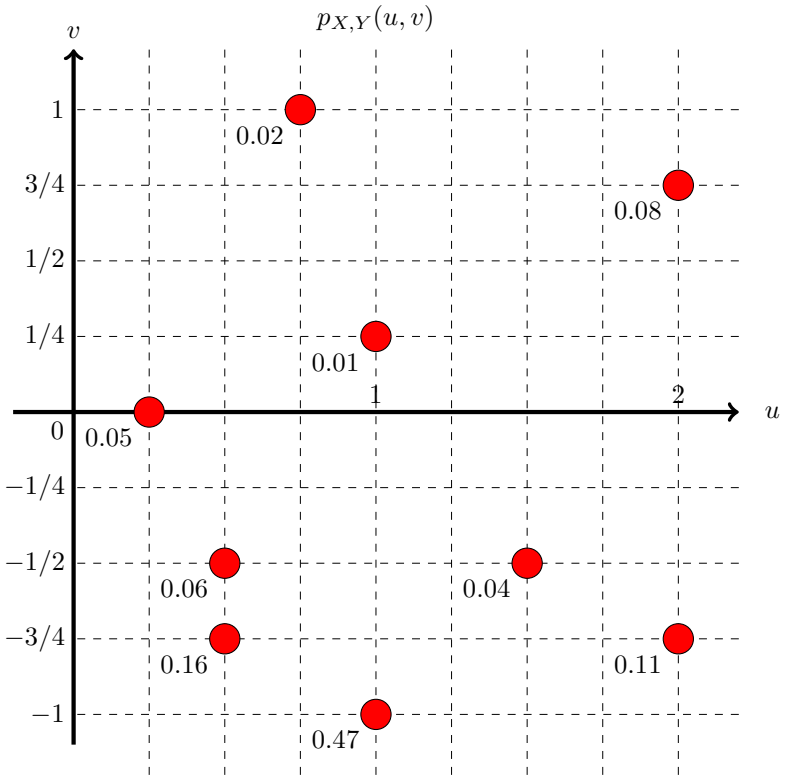
(i) 5/2

(j) 31/3

(k) 5734/45

(l) None of these

Random variables X and Y have the joint probability mass function shown below. What is the probability that Y is greater than $\sin(2\pi X)$?



(a) 0.11

(b) 0.10

(c) 0.02

(d) 0.08

(e) 0.01

(f) 0.16

(g) 0.15

(h) 0.17

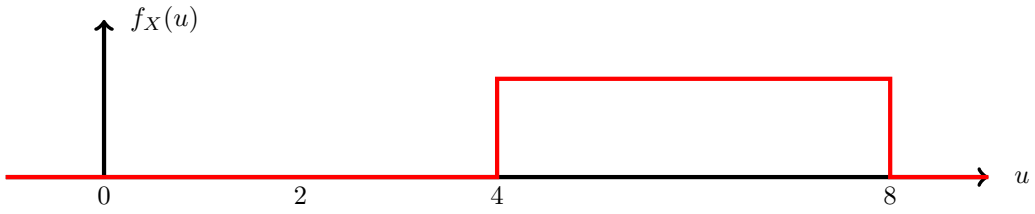
(i) 0.22

(j) 0.26

(k) 0

(l) None of these

If random variable X has probability density function shown below, then what is the expected value of $\sqrt{X}$?



(a) $4(2\sqrt{2}-1)/3$

(b) $16(2\sqrt{2}-1)/3$

(c) $(2\sqrt{2}-1)/3$

(d) $4(\sqrt{2}-1)/3$

(e) $4(2\sqrt{2}-1)$

(f) $4(2\sqrt{2}+1)/3$

(g) $8(2\sqrt{2}-1)/3$

(h) 2

(i) 5/2

(j) $2\sqrt{2}$

(k) $4\sqrt{2}$

(l) None of these