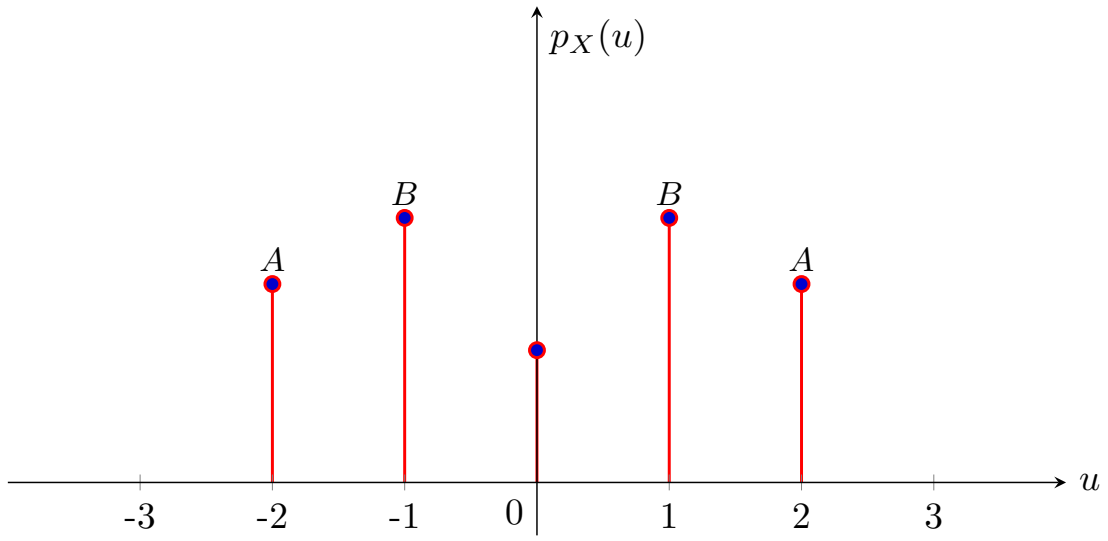
What is the variance of a random variable whose probability mass function (pmf) is shown below, where $A = 3/16$ and $B = 1/4$?



(a) 2

(b) 4

(c) 1

(d) 1/2

(e) 1/4

(f) 1/16

(g) $\sqrt{2}$

(h) 3/4

(i) 10

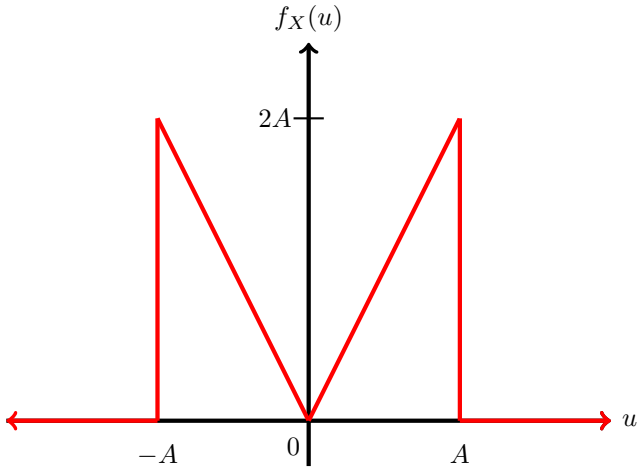
(j) 0

(k) 5/16

(l) 3

(m) None of these

What is the variance of a random variable whose probability density function (pdf) is shown below?



(a) $1/4$

(b) $1/2$

(c) 1

(d) 0

(e) $1/8$

(f) $\sqrt{2}/2$

(g) $2i$

(h) 4

(i) $\sqrt{2}$

(j) $1 - \frac{\sqrt{3}}{2}$

(k) $\frac{1}{2} - \frac{\sqrt{3}}{4}$

(l) $2/3$

(m) None of these.

Let X be a random variable whose probability density function (pdf) is $f(u) = Ce^{-\frac{1}{2}\left(\frac{u^2-5}{3}\right)}$ where C is a constant. What is the product of the mean and variance of X ?

(a) None of these

(b) 25/18

(c) 15

(d) 45

(e) $5\sqrt{3}$

(f) 75

(g) $25\sqrt{3}$

(h) 225

(i) $\sqrt{15}$

(j) 1

(k) 5/3

(l) 5/9

(m) $5/\sqrt{3}$