Suppose a random variable has probability density function

$$f(b) = Ae^{-(2b-1)^2}$$

where A is a constant and $-\infty < b < \infty$. What is the mean times the variance?

(a) 1/16

(b) 1/8

(c) 1/4

(d) 1/2

(e) 2

(f) 1

(g) 4

(h) $1/\sqrt{8}$

(i) $1/\sqrt{2}$

(j) $2\sqrt{2}$

(k) 8

(l) None of these.