

Suppose X is a Gaussian random variable with zero mean and variance 8π . Let Y be a random variable which equals X when X is positive, and equals X^2 otherwise. What is the expected value of Y ?

- (a) $2 + 4\pi$
- (b) $2 + 8\pi$
- (c) $4 + 4\pi$
- (d) $4 + 8\pi$
- (e) $2 + 4\sqrt{\pi}$
- (f) $4\sqrt{2\pi} + 4\pi$
- (g) $4\sqrt{2\pi} + 8\pi$
- (h) $-2 + 4\pi$
- (i) $2 - 4\pi$
- (j) $4 - 4\pi$
- (k) 0
- (l) None of these