

102. WidgetsRUs owns two factories. It buys insurance to protect itself against major repair costs. Profit equals revenues, less the sum of insurance premiums, retained major repair costs, and all other expenses. WidgetsRUs will pay a dividend equal to the profit, if it is positive.

You are given:

- (i) Combined revenue for the two factories is 3.
- (ii) Major repair costs at the factories are independent.
- (iii) The distribution of major repair costs for each factory is

k	Prob (k)
0	0.4
1	0.3
2	0.2
3	0.1

- (iv) At each factory, the insurance policy pays the major repair costs in excess of that factory's ordinary deductible of 1. The insurance premium is 110% of the expected claims.
- (v) All other expenses are 15% of revenues.

Calculate the expected dividend.

- (A) 0.43
- (B) 0.47
- (C) 0.51
- (D) 0.55
- (E) 0.59