If A and B are independent events in a sample space such that $P(AB) = P(A^cB) = 1/3$, then what is $P(AB^c)$?

(a) 1/6

(b) 1/2

(c) 1/3

(d) 2/3

(e) 5/6

(f) 1/12

(g) 1/4

(h) 3/4

(i) 1/8

(j) None of these