Suppose an experiment has sample space $S = \{a, b, c\}$. Define the three events $E = \{a, b\}$, $F = \{b, c\}$, and $G = \{a, c\}$. If the probability that event G and event $E \cup F$ both occur is $3/4$, and the probability that EF occurs is twice the probability that FE^cG occurs, then what is the probability the experiment's outcome is c ?

(a) $1/8$

(b) $3/8$

(c) $3/4$

(d) $1/4$

(e) $1/2$

(f) 0

(g) $5/8$

(h) $1/3$

(i) $2/3$

(j) $7/8$

(k) $3/16$

(l) None of these