

An experiment consists of flipping two fair coins. Let E be the event that we get no Tails in the two flips. We repeat the experiment in three independent trials. What is the probability that event E does not occur in any of the trials?

- (a) $27/64$
- (b) $1/64$
- (c) $1/8$
- (d) $7/8$
- (e) $9/16$
- (f) $7/16$
- (g) $37/64$
- (h) $27/32$
- (i) $1/512$
- (j) $1/256$
- (k) $1/27$
- (l) None of these

An experiment has sample space $S = \{a, b, c, d\}$. The probabilities of events $\{a, b\}$ and $\{a, c\}$ are each $1/6$. The events $\{c, d\}$ and $\{b, d\}$ are independent. What is the probability of event $\{d\}$?

- (a) $25/36$
- (b) $11/36$
- (c) $1/6$
- (d) $5/6$
- (e) $1/36$
- (f) $2/3$
- (g) $1/3$
- (h) $1/2$
- (i) $1/18$
- (j) $1/4$
- (k) $1/27$
- (l) None of these

An experiment has sample space $S = \{a, b, c, d, e, f, g, h\}$ and probabilities $P(\{a\}) = P(\{b\}) = P(\{c\}) = P(\{d\}) = 1/8$, $P(\{e\}) = 2/9$, and $P(\{f\}) = 1/9$. The events $\{c, d, g, h\}$ and $\{b, d, f, h\}$ are independent given event $\{e, f, g, h\}$. What is $P(\{h\})$?

- (a) $1/18$
- (b) $1/9$
- (c) $1/3$
- (d) $1/6$
- (e) $1/2$
- (f) $2/3$
- (g) $2/9$
- (h) $4/9$
- (i) $5/6$
- (j) $1/4$
- (k) $1/27$
- (l) None of these