Suppose an experiment consists of rolling two fair dice, and we repeat the experiment using four independent trials. What is the probability that the sum of the dice in the third trial is smaller than three, given we do not see a six during either the first or second trial?

(a) None of these.

(b) 1/18

(c) 1/9

(d) 1/12

(e) 2/9

(f) 4/5

(g) 2/5

(h) 1/3

(i) 1/2

(j) 1/6

(k) 2/3

(l) 1/5