11

PROBABILTY

2018B

6. A box contains 5 chips, numbered 1, 2, 3, 4, and 5. Chips are drawn randomly one at a time without replacement until the sum of the values drawn exceeds 4. What is the probability that 3 draws are required?

(A) $\dfrac{1}{15}$ (B) $\dfrac{1}{10}$ (C) $\dfrac{1}{6}$ (D) $\dfrac{1}{5}$ (E) $\dfrac{1}{4}$

2003A

8. What is the probability that a randomly drawn positive factor of 60 is less than 7?

(A) $\dfrac{1}{10}$ (B) $\dfrac{1}{6}$ (C) $\dfrac{1}{4}$ (D) $\dfrac{1}{3}$ (E) $\dfrac{1}{2}$

2005A

9. Three tiles are marked X and two other tiles are marked O. The five tiles are randomly arranged in a row. What is the probability that the arrangement reads XOXOX?

(A) $\dfrac{1}{12}$ (B) $\dfrac{1}{10}$ (C) $\dfrac{1}{6}$ (D) $\dfrac{1}{4}$ (E) $\dfrac{1}{3}$

2005B 9. One fair die has faces 1, 1, 2, 2, 3, 3 and another has faces 4, 4, 5, 5, 6, 6. The dice are rolled and the numbers on the top faces are added. What is the probability that the sum will be odd?

(A) $\dfrac{1}{3}$ (B) $\dfrac{4}{9}$ (C) $\dfrac{1}{2}$ (D) $\dfrac{5}{9}$ (E) $\dfrac{2}{3}$

2012A 9. A pair of six-sided fair dice are labeled so that one die has only even numbers (two each of 2, 4, and 6), and the other die has only odd numbers (two each of 1, 3, and 5). The pair of dice is rolled. What is the probability that the sum of the numbers on the tops of the two dice is 7?

(A) $\dfrac{1}{6}$ (B) $\dfrac{1}{5}$ (C) $\dfrac{1}{4}$ (D) $\dfrac{1}{3}$ (E) $\dfrac{1}{2}$

2017B 9. A radio program has a quiz consisting of 3 multiple-choice questions, each with 3 choices. A contestant wins if he or she gets 2 or more of the questions right. The contestant answers randomly to each question. What is the probability of winning?

(A) $\dfrac{1}{27}$ (B) $\dfrac{1}{9}$ (C) $\dfrac{2}{9}$ (D) $\dfrac{7}{27}$ (E) $\dfrac{1}{2}$

2018B 9. The faces of each of 7 standard dice are labeled with the integers from 1 to 6. Let p be the probability that when all 7 dice are rolled, the sum of the numbers on the top faces is 10. What other sum occurs with the same probability p?

(A) 13 (B) 26 (C) 32 (D) 39 (E) 42

2004A 10. Coin A is flipped three times and coin B is flipped four times. What is the probability that the number of heads obtained from flipping the two fair coins is the same?

(A) $\dfrac{19}{128}$ (B) $\dfrac{23}{128}$ (C) $\dfrac{1}{4}$ (D) $\dfrac{35}{128}$ (E) $\dfrac{1}{2}$