GMAT Practice Worksheet: Probability and Combinatorics

Objective: The purpose of this worksheet is to give you practice solving GMAT questions involving probability and combinatorics (see video: "Data Analysis - Probability and Combinatorics"):

Directions: Take as much time as you need to solve each problem. Use your textbook and video lessons for reference if necessary. Do not be concerned with time; learning the techniques and relevant math is what is important.

1. Seven cards in a pile are numbered 1 through 7. One card is drawn. The units digit of the sum of the numbers on the remaining cards is 7. What is the number on the drawn card?

(A) 7
(B) 6
(C) 5
(D) 3
(E) 1

2. A five-sided fair die is thrown twice (sides are numbered one through five). What is the probability that the sum of the two throws is an odd prime?

(A) 1/5
(B) 1/3
(C) 2/5
(D) 1/2
(E) 3/5

3. How many positive integers are both multiples of 4 and divisors of 64?

(A) 1
(B) 2
(C) 4
(D) 5
(E) 10

4. A bag contains 3 yellow and 5 blue equally sized marbles. Two marbles are randomly removed from the bag. What is the probability that 3 yellow and 3 blue marbles remain in the bag?

(A) 1/4
(B) 5/14
(C) 1/2
(D) 5/7
(E) 5/8

5. What is the probability that Sally will awaken tomorrow morning between 7:04 and 7:08?

(1) The probability that she will awaken on any given day before 7:08 is 0.8
(2) The probability that she will awaken on any given day after 7:04 is 0.75

(A) Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
(B) Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
(C) Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
(D) Either statement BY ITSELF is sufficient to answer the question.
(E) Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

6. In how many different ways can we arrange the letters in the name SMITH?

(A) 5
(B) 15
(C) 25
(D) 120
(E) (5)(5)(5)(5)(5)

7. Stan is arranging the types of balls in his display case: tennis ball, baseball, basketball, golf ball, and soccer ball into a single row. How many different arrangements can he make if the golf ball and the tennis ball must be either first or second in the row?

(A) 6
(B) 12
(C) 24
(D) 60
(E) 120

8. If there are 8 swimmers in the event, and medals are given for 1st, 2nd, and 3rd, how many different ways can the medals be distributed amongst the swimmers?

(A) 6
(B) 120
(C) 210
(D) 336
(E) 40,320

9. A = (2,3,4,5)
B = (4,5,6,7,8)

Two integers will be randomly selected from the sets above, one integer from set A and one integer from set B. What is the probability that the sum of the two integers equals 9?

(A) 0.15
(B) 0.20
(C) 0.25
(D) 0.30
(E) 0.33

10. The Thompson family will purchase three used cars. There are two models of cars available, Model A and Model B, each of which is available in four colors: blue, black, red, and green. How many different combinations of three cars can the Thompsons select if all the cars are to be different colors?

(A)24
(B)32
(C)48
(D)60
(E)192

GMAT – Probability and Combinatorics Worksheet:
ANSWER KEY

Note: Video answer explanations for each question on this worksheet can be found under the "Worksheets" heading on your back-end member page. If you still have questions about certain problems after watching the solution videos, contact your instructor or send an e-mail to info@dominatethegmat.com.

1. E
2. C
3. D
4. B
5. C
6. D
7. B
8. D
9. B
10. B