GRE Quant Foundation Assessment Test (Data Analysis - Part 2)

Total points 12/41

This is an assessment designed to assess your GRE Quant Foundation knowledge. None of the questions are tricky. None of the questions are puzzles. They solely test knowledge.

Calculators: You can use a calculator but it has to be one of those crappy ones like the one on your phone when you turn it vertically. Or the one on the ETS website in the PowerPrep exams. Or https://www.gregmat.com/tools/calculator

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✓ For a certain meal, patrons must choose one entrée, one side dish, and one dessert. If there are 7 entrées, 5 side dishes, and 3 desserts to choose from, how many different meal combinations are there? 1/1

105 ✓

✓ How many three-digit positive integers exist where each digit is an odd number? 1/1

125 ✓

✓ How many three-digit positive integers exist where each digit is an even number? 1/1

100 ✓

✓ To create a simple password, a user must choose four letters from the English alphabet (lowercase only). If repeated letters are not allowed, how many unique passwords exist? 1/1

358800 ✓

✓ Which of the following correctly characterizes combinations? 1/1

- (●) In calculating combinations, order does not matter. ✓
- ( ) In calculating combinations, order does matter.

✓ Which of the following is the formula to calculate the number of permutations? 1/1

$$\frac{n!}{(n-r)!}$$

◉ Option 1 ✓

$$\frac{n!}{(n+r)!}$$

○ Option 2

$$\frac{(n+r)!}{n!}$$

○ Option 3

$$\frac{(n-r)!}{(n-r-1)!}$$

○ Option 4

✗ Seven friends go to the theater and sit in a row of seven adjacent seats. If Fred, one of the friends, must sit in the middle, how many different seating arrangements are possible for all seven friends? 0/1

240 ✗

Correct answer

720

✗ Six friends go to the theater and sit in a row of six adjacent seats. If Fred, one of the friends, must sit at one of the ends, how many different seating arrangements are possible for all six friends? 0/1

48 ✗

Correct answer

240

✗ Six friends go to the theater and sit in a row of six adjacent seats. If Al, Bob, and Chris, three of the friends, must sit together in three adjacent seats, how many different seating arrangements are possible for all six friends? 0/1

36 ✗

Correct answers

144

Correct Answer

✗ Six friends go to the theater and sit in a row of six adjacent seats. If Sam and Bill, two of the "friends," hate each and refuse to sit directly next to one another, how many different seating arrangements are possible for all six friends? 0/1

672 ✗

Correct answer

480

✓ In how many different ways can the letters of the word MOUSE be arranged? 1/1

120 ✓

✗ Which of the following quantities is bigger? 0/1

- (●) The number of different ways to arrange the letters of the word ACTIVE ✗
- ( ) The number of different ways to arrange five of the letters of the word ACTIVE
- ( ) The two quantities are equal.
- ( ) It cannot be determined.

Correct answer

- (●) The two quantities are equal.

✗ In how many different ways can the letters of the word COMMITTEE be arranged? 0/1

✗

Correct answers

45360

45,360

✗ 10 people are sitting at a circular table. If they were all to stand up and randomly choose a seat, how many different circular seating arrangements would be possible? 0/1

- ○ 10! - 9!
- ○ 10!
- ○ 9!
- ◉ 10! - 1 ✗
- ○ 10! / 9!

Correct answer

- ◉ 9!

✓ Which of the following quantities is bigger? 1/1

- ○ The number of distinct ways to choose 3 people from 10.
- ○ The number of distinct ways to choose 7 people from 10.
- ◉ The two quantities are equal. ✓
- ○ It cannot be determined.

✗ In a table in front of you, you see 5 different novels and 8 different comic books. You are told that you must select five items: 2 novels and 3 comic books. In how many different ways can this be accomplished? ···/1

122 ✗

Correct answer

560

✗ Five people enter a contest. The person who gets first place gets to select 3 prizes from a pool of 8. The person who gets second place gets to select 2 prizes from the ones remaining. The person who gets third place gets to select 1 prize from the ones remaining. How many distinct winner/prize groupings are possible? ···/1

✗

Correct answers

100800

100,800

✗ Imagine a very tiny car is driving on the xy-coordinate plane from the origin to the point (5, 4). If the tiny car can only move up, down, right, or left and in 1-unit increments, how many distinct SHORTEST routes are possible? 0/1

✗

Correct answer

126

✗ A man gets a vanilla ice cream cone. He can choose to add up to eight toppings to it. How many different ice cream plus toppings combinations are possible? 0/1

40320 ✗

Correct answer

256

✗ A man goes to the store to choose up to 100 different items. The only rule is he must leave with at least one item. How many distinct combinations of items are possible? 0/1

- ○ 100!
- ○ 2^(100) - 1
- ◉ 100! - 1 ✗
- ○ 2^(100) - 100
- ○ 2^(99) + 1

Correct answer

- ◉ 2^(100) - 1

✓ If you were to randomly choose a positive integer from the first 30 positive integers, what is the probability that the integer you select would be prime? 1/1

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

1/3 ✓

✓ If the probability that event A happens is 0.3, what is the probability that event A does NOT happen? 1/1

Write your answer as a decimal.

.7 ✓

✗ What is the probability of flipping a fair coin four times and the coin landing on heads every time? 0/1

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

✗

Correct answer

1/16

✗ What is the probability of rolling a fair, 6-sided die twice and it landing on the same number each time? 0/1

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

✗

Correct answer

1/6

✗ Bob randomly arranges the first ten letters of the English alphabet. Bob then randomly arranges them again. What is the probability that the first three letters in both cases are the same? 0/1

*Note: The order matters. If the first three letters are CFH in the first trial and FCH in the second, this would NOT work.

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

_____ ✗

Correct answer

1/720

✗ From the first 100 positive integers, what is the probability of randomly selecting either a multiple of 3 or a multiple of 4? 0/1

- ○ 42/100
- ○ 50/100
- ◉ 58/100 ✗

Correct answer

- ◉ 50/100

✗ From the first 100 positive integers, what is the probability of randomly selecting either a multiple of 6 or a multiple of 7, but not both? 0/1

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

_____ ✗

Correct answer

13/50

✗ Events A and B are independent. If the probability event A occurs is 0.35 and the probability event B occurs is 0.75, what is the probability that neither event occurs? 0/1

Write your answer as a decimal.

_____ ✗

Correct answers

.1625

0.1625

✓ Which of the quantities is bigger? 1/1

- (●) 0.05 ✓
- ( ) The probability mutually exclusive events happen at the same time
- ( ) The two quantities are equal.
- ( ) It cannot be determined

✗ Events A and B are independent. If the P(A) = 0.6 and P(B) = 0.7, what is the probability A or B occurs? 0/1

Write your answer as a decimal.

.46 ✗

Correct answers

0.88

.88

✓ A probability value can exceed 1. 1/1

- ○ True
- ◉ False ✓

✗ The sum of two probability values can exceed 1. 0/1

- ○ True
- ◉ False ✗

Correct answer

- ◉ True

✗ Events A and B are independent. If the P(A) = 0.8 and P(B) = 0.9, what is the probability A or B, but not both, occurs? 0/1

Write your answer as a decimal.

Correct answers

0.26

.26

✗ Events A and B are mutually exclusive. What is the **maximum** possible value of P(A) x P(B)? 0/1

Write your answer as a decimal.

0

Correct answers

0.25

.25

✗ The probability of event A is 0.4 and the probability of event B is 0.3. What could be the probability that A or B occurs? 0/1

Select all that apply.

- [ ] 0.25
- [ ] 0.30
- [ ] 0.40
- [ ] 0.50
- [ ] 0.60
- [ ] 0.70
- [ ] 0.80

✗ The probability of event A is 0.4 and the probability of event B is 0.3. What could be the probability that A and B occur? 0/1

Select all that apply.

- [x] 0 ✓
- [x] 0.1 ✓
- [ ] 0.2
- [x] 0.3 ✓
- [ ] 0.4
- [ ] 0.5

Correct answer

- [x] 0
- [x] 0.1
- [x] 0.2
- [x] 0.3

✗ John is one of eight freshmen who might be selected for a school field trip. If the professor randomly selects three of the students, what is the probability John is selected? 0/1

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

✗

Correct answers

21/56

3/8

✗ If the probability of rain on any given day is 1/4, what is the probability that it rains exactly twice in a 4-day period? 0/1

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

✗

Correct answer

27/128

✗ If a fair coin is flipped 10 times, what is the probability that the coin lands on heads at most 9 times? 0/1

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

_____ ✗

Correct answer

1023/1024

✗ A fair coin is flipped 5 times. Given that the coin lands on Heads at least 3 times, what is the probability it lands on Heads exactly 4 times? 0/1

Write your answer as a simplified fraction in the form of a/b, where a and b are integers.

_____ ✗

Correct answer

5/16

✗ What is the expected value of a random number generator that spits out a random integer from 2 to 5 (inclusive), if the probability of a prime number is 5 times as likely as the probability of a non-prime number? 0/1

Write your answer as a decimal.

.28 ✗

Correct answer

3.375