

Bonus exam

⚠ This is a preview of the published version of the quiz

Started: Dec 3 at 2:27am

Quiz Instructions

Please click on "Proctoring" on the left panel of Canvas to start the exam.

This exam consists of 12 multiple choice questions.

The time limit of this exam is 70 minutes. Only one attempt is allowed.

You can use a calculator, a 4x6 note card, and blank papers for scratch.

Question 1

2 pts

Suppose that there are 4 grocery stores and 3 gas stations in your neighborhood. One morning, you need to go first to a grocery store, and then to a gas station. In how many ways can you do this?

- 7
- 144
- 24
- 12

Question 2

2 pts

You bought 7 picture frames, but then realized that only 4 could fit on the wall at one time. How many ways are there to hang any 4 of your picture frames? (Assuming that the arrangement of the picture frames on the wall does matter to you.)

- 840

2401

35

210

Question 3

2 pts

What is the value of $C(15, 9)$?

5005

159

3603600

1816214400

Question 4

2 pts

A pair of fair dice are rolled. What is the probability that the sum is equal to 8?

5/36

6/36

8/36

7/36

Question 5

2 pts

How many permutations are there of size 8 ?

- 256
- 64
- 40320
- 5040

Question 6

2 pts

An event E and its complement event E^c are always independent of each other. True or false?

- True
- False

Question 7

2 pts

How is $P(E \cap F)$ compared to $P(E \cup F)$?

- The former is strictly less than the latter.
- The former is strictly greater than the latter.
- The former is equal to the latter.
- The former is less than or equal to the latter.
- The former is larger than or equal to the latter.

Question 8

2 pts

At a certain fast-food restaurant, customers can build their own meal by choosing 1 protein dish, 1 type of rice, 1 type of beans, 2 side dishes, and 3 toppings, all served on the same bowl. Suppose there are 4 protein dishes, 3 types of rice, 2 types of beans, 5 types of side dishes, and 7 toppings to choose from. How many different meals can be built?

- 50400
- 8400
- 40
- 205800

Question 9

2 pts

If your full name is Michael John Smith, your initials are MJS.

Assume that everybody has three letter initials. How large can the population of a town be if no two people are allowed to have the same three letter initials?

- 15600
- 2600
- 17576
- 24389

Question 10

2 pts

A certain true and false test consists of 10 questions. A student guesses randomly at each question. What is the probability that he/she will get exactly 7 questions correctly?

0.000114

0.1172

0.7

0.0505

Question 11

2 pts

4 cards are drawn at random from a deck of 52 cards. What is the probability of drawing at least 1 ace?

0.07032

0.07692

0.14063

0.28126

Question 12

2 pts

Imagine a die that was manufactured incorrectly, and has two faces marked with a 1 and no face with a 6. Assume that each face is equally likely to occur. If this die is rolled 3 times, what is the probability of getting exactly two 1's ?

$2/27$

$4/9$

$2/9$

$4/27$

Quiz saved at 2:27am

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