Started on	Saturday, 24 September 2022, 4:20 PM
State	Finished
Completed on	Saturday, 24 September 2022, 4:20 PM
Time taken	8 secs
Marks	0.00/15.00
Grade	**0.00** out of 10.00 (**0**%)

Question **1**

Not answered

Marked out of 1.00

A **palindrome** is a string whose **reversal** is identical to the string. For example, 1101011 is a palindrome of length 7.
How many bit strings of length 5 are palindromes?

- a. 8
- b. 5
- c. None of these
- d. 6
- e. 6

Your answer is incorrect.

The correct answer is: 8

Question 2

Not answered

Marked out of 1.00

How many bit strings are there of length eight begin with 1 or end with 00?

a. $2^7 + 2^6$

b. None of the other choices is correct

c. $2^7 + 2^6 - 2^5$

d. 2^7

e. 2^5

Your answer is incorrect.

$2^7 + 2^6 - 2^5$

The correct answer is:

$2^7 + 2^6 - 2^5$

Question 3

Not answered

Marked out of 1.00

Suppose $|A| = 4$ and $|B| = 5$. Find the number of functions from set A to set B.

- a. 5!
- b. 4!
- c. 20
- d. 5^4
- e. 4^5

Your answer is incorrect.

The correct answer is:
5^4

Question **4**

Not answered

Marked out of 1.00

How many one-to-one functions are there from a set with five elements to sets with seven elements?

- a. 7^5
- b. 7.6.5.4.3
- c. 7!
- d. 5^7
- e. None of these

Your answer is incorrect.

The correct answer is: 7.6.5.4.3

Question 5

Not answered

Marked out of 1.00

A class consists of 20 sophomores and 15 freshmen. The club needs to choose four different members to be president, vice president, secretary, and treasurer.

In how many ways is this possible if sophomores will be chosen as president and treasurer and freshmen as vice president and secretary?

a. $20 \times 19 \times 18 \times 15$

b. $35 \times 34 \times 33 \times 32$

c. $20 \times 15 \times 14 \times 13$

d. $20 \times 19 \times 15 \times 14$

Your answer is incorrect.

The correct answer is:
$20 \times 19 \times 15 \times 14$

Question **6**

Not answered

Marked out of 1.00

A club with 15 women and 13 men needs to choose three different members to be president, vice president, and treasurer.
In how many ways is this possible if women will be chosen as president and vice president and a man as treasurer?

- a. $15 \times 14 \times 13$
- b. None of these
- c. $15 \times 13 \times 12$
- d. $28 \times 27 \times 26$

Your answer is incorrect.

The correct answer is:
$15 \times 14 \times 13$

Question 7

Not answered

Marked out of 1.00

Suppose that a “word” is any string of seven letters of the alphabet, with repeated letters allowed.

1) How many words begin with the letter K?

2) How many words begin with A or B?

a. None of these

b. 26^6, $2.26^6 - 26^5$

c. 26^6, 2.26^5

d. $6!.26$, $5!.26^2$

e. 26^6, 2.26^6

Your answer is incorrect.

The correct answer is:
26^6, 2.26^6

Question 8

Not answered

Marked out of 1.00

Suppose that a “word” is any string of seven letters of the alphabet, with repeated letters allowed.

1) How many words have no vowels?

2) How many words have exactly one vowel?

a. 21^7, $5.7.21^6$

b. 21^7, 5.21^6

c. None of these

d. $26^7 - 5^7$, $5.7.21^6$

Your answer is incorrect.

The correct answer is:
21^7, $5.7.21^6$

Question 9

Not answered

Marked out of 1.00

Consider all bit strings of length 8.

1) How many begin with 11 and end with 10?

2) How many begin with 11 or end with 10?

a. 2^4, $2.2^6 + 2^4$

b. 2^4, $2.2^6 - 2^4$

c. 2^4, $2.2^6 - 2^6$

d. 2^4, 2.2^6

e. None of these

Your answer is incorrect.

The correct answer is:
2^4, $2.2^6 - 2^4$

Question **10**

Not answered

Marked out of 1.00

Using the ordinary alphabet and allowing repeated letters, find the number of words of length 8 that have at least one C.

a. $26^8 - 25^8$

b. 26^8

c. 26.26^7

d. 2.26^8

Your answer is incorrect.

$26^8 - 25^8$

The correct answer is:
$26^8 - 25^8$

Question 11

Not answered

Marked out of 1.00

Suppose that a “word” is any string of seven letters of the alphabet, with repeated letters allowed.

1) How many words begin with the letter K?

2) How many words begin with O or K and end with K or O?

a. $6!.26, 5!.26^2$

b. None of these

c. $26^6, 4.26^5$

d. $26^6, 4.26^6$

e. $26^6, 2.26^6$

Your answer is incorrect.

The correct answer is:
$26^6, 4.26^5$

Question 12

Not answered

Marked out of 1.00

A multiple-choice test contains 6 questions. There are four possible answers for each question.
In how many ways can a student answer the questions on the test if the student answers every question?

a. 4^6

b. 6^4

c. None of these

d. 6!

e. 24

Your answer is incorrect.

The correct answer is: 4^6

Question **13**

Not answered

Marked out of 1.00

There are four major auto routes from Boston to Detroit and six from Detroit to Los Angeles. How many major auto routes are there from Boston to Los Angeles via Detroit?

- a. 4^6
- b. 6^4
- c. 24
- d. None of these
- e. 10

Your answer is incorrect.

The correct answer is: 24

Question **14**

Not answered

Marked out of 1.00

Suppose that a “word” is any string of seven letters of the alphabet, with repeated letters allowed.

1) How many words end with the letter K?

2) How many words begin with O and end with K?

a. 26^6, 2.26^6

b. 26^6, $2.26^6 - 26^5$

c. 26^6, 26^5

d. $6!.26$, $5!.26^2$

e. None of these

Your answer is incorrect.

The correct answer is:
26^6, 26^5

Question **15**

Not answered

Marked out of 1.00

A “word” is any string of seven letters of the alphabet, with repeated letters allowed.

a) How many words end with the letter T?

b) How many words begin with R and end with T?

- a. 26^6, 26^5
- b. 26^6, 2.26^6
- c. 26^5, 2.26^5
- d. 26^5, 26^6

Your answer is incorrect.

26^6, 26^5

The correct answer is:
26^6, 26^5