Congratulations! You passed!

TO PASS 70% or higher

Keep Learning

GRADE
100%

Pre-Quiz

TOTAL POINTS 13

1. Probability & Statistics: Rolling a 6-faced die, what's the probability of seeing a "6"? **1 / 1 point**

- 1/2
- 1/3
- (selected) 1/6
- 1

Correct
Correct! Each side of the die is equally likely to appear with each roll.

2. Probability & Statistics: Rolling a 6-faced die, what's the probability of seeing an even number? **1 / 1 point**

- 1
- 1/6
- (selected) 1/2
- 1/3

Correct
Correct! Even and odd sides of a die have equal chances of appearing with each roll.

3. Probability & Statistics: Rolling a 6-faced die, given that the number is even, what's the probability that we've got a "6"? **1 / 1 point**

- [x] 1/3
- [ ] 1/6
- [ ] 1
- [ ] 1/2

Correct

The numbers 2, 4, and 6 have equal chances of appearing with each roll of the die.

4. Probability & Statistics: Rolling two independent 6-faced dice, what's the probability that both dice show the same number? **1 / 1 point**

- [x] 1/6
- [ ] 1
- [ ] 1/3
- [ ] 1/2

Correct

Correct! Out of the possible 36 combinations, 6 are pairs of the same number.

5. Linear algebra: What's the value of $2 * \vec{x}$, where $\vec{x} = [1.0, 2.0.3.0]$? **1 / 1 point**

- [ ] [1.0, 2.0. 3.0]
- [ ] [2.0, 2.0. 3.0]
- [x] [2.0, 4.0. 6.0]

Correct

You correctly used element-wise multiplication to solve this problem!

6. Linear algebra: If $x = [1, 2, 3]$ and $y = [1, -2, 2]$, what's the dot product $x \cdot y$? **1 / 1 point**

- 4
- 2
- 3 (selected)
- 1

✓ **Correct**

You correctly computed the dot product of these two vectors!

7. Linear algebra: What is the result of multiplying matrix **1 / 1 point**

$$\begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$$

$M = \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$ by a vector whose transpose is $x^T = [1, 1]$,

- $\begin{bmatrix} 2 \\ 2 \end{bmatrix}$
- $\begin{bmatrix} 1 \\ 1 \end{bmatrix}$
- $\begin{bmatrix} 4 \\ 4 \end{bmatrix}$
- $\begin{bmatrix} 3 \\ 3 \end{bmatrix}$ (selected)

Correct

You correctly computed the cross product of these two vectors!

8. Basic algebra: if x and y are both positive numbers, and x > y, then what can we say about log(x) and log(y)? **1 / 1 point**

- This can't be determined
- log(x) > log(y)
- log(x) < log(y)

Correct

Correct! Logarithms monotonically increase.

9. Basic algebra: Which of the following is true? **1 / 1 point**

- log (x+y) = log(x) + log(y)
- log(x-y) = log(x) - log(y)
- log(xy) = log(x) + log(y)

Correct

Correct! You identified the product property of logarithms.

10. Basic algebra: Which of the following is true (where exp(x) is the exponential function with e as the base)? **1 / 1 point**

- exp(x+y) = ln(x)*ln(y)
- ln(x+y) = exp(x) + exp(y)
- exp(ln (x)) = x

Correct

Correct! You correctly recalled the relationship between exponential and logarithmic functions!

11. Basic Computer Science: Which of the following operations occur in a computer program faster? **1 / 1 point**

- (●) Reading a 32-bit integer from the memory
- ( ) Reading a 32-bit integer from the hard disk.

✓ **Correct**

Correct! RAM accesses faster than disk

12. Basic Computer Science: Which of the following statements is true about data structures? **1 / 1 point**

- ( ) A linked list is the best for supporting direct access to any element in the list
- ( ) Hash table is faster for sequential access to the elements than a linked list
- (●) A linked list to store k integers would require more storage space than an array to store the same k integers.

✓ **Correct**

Correct! Linked lists also require storing header information.

13. Basic Computer Science: What's the value of the binary code 1011? **1 / 1 point**

- ( ) 12
- (●) 11
- ( ) 9
- ( ) 10

Correct

Correct! You calculated the correct value of the binary code.