

Name

Mastering Factorials

Total questions: 15

Worksheet time: 8mins

Instructor name: Dr. Ramanathan Saitechinfo

Class

Date

1. What is the value of $5!$?

a) 200

b) 120

c) 150

d) 100

2. Calculate $7!$ and provide the answer.

a) 40320

b) 720

c) 5040

d) 504

3. Explain the notation of factorials.

a) The notation of factorials is ' $n!$ ', representing the product of all positive integers up to ' n '.

b) The notation of factorials is ' $n\#$ ', representing the sum of all positive integers up to ' n '.

c) The notation of factorials is ' n^* ', indicating the division of all positive integers up to ' n '.

d) The notation of factorials is ' $n\%$ ', which represents the average of all positive integers up to ' n '.

4. What is the factorial of 0?

a) 1

b) 1.5

c) 0

d) -1

5. If $n = 4$, what is $n!$?

a) 24

b) 12

c) 6

d) 30

6. How many ways can you arrange 3 books on a shelf?

a) 6

b) 9

c) 3

d) 12

7. Calculate $6!$ and show your work.

a) 720

b) 600

c) 7200

d) 36

8. What is the relationship between $n!$ and $(n-1)!$?

a) $n! = n * (n-1)!$

b) $n! = n * n!$

c) $n! = n + (n-1)!$

d) $n! = (n-1)! + 1$

9. If $8! = 40320$, what is $7!$?

a) 10080

b) 40320

c) 720

d) 5040

10. Solve for n if $n! = 120$.

a) 5

b) 3

c) 6

d) 4

11. What is the factorial of 10?

a) 3628800

b) 7200

c) 362880

d) 1000

12. How do you express $5!$ in terms of $4!$?

a) $5! = 4! \times 4!$

b) $5! = 5 \times 4!$

c) $5! = 4! + 1$

d) $5! = 5 \times 5!$

13. If you have 5 different colored balls, how many ways can you arrange them?

a) 60

b) 240

c) 30

d) 120

14. Calculate the value of $9! / 7!$.

a) 63

b) 72

c) 56

d) 90

15. What is the factorial of a negative number?

a) Zero

b) Positive integers

c) Undefined

d) Negative integers