

Mathematics 10

Factorial Notation – used to write the product of series of consecutive integers.

Formula: $P=n!$

Let n = number of possible arrangements of 4 digits code.

Examples:

1. $12!$

Answer: $12 \times 11 \times 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 479001600$

2. $5(9! - 2!)$

Answer: $[(9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1) - (2 \times 1)] = 362878$

$362878 \times 5 = 1814390$

3. $8! 6!$

Answer: $(8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1) \times (6 \times 5 \times 4 \times 3 \times 2 \times 1) = 29030400$

4. $4! + 5!$

Answer: $(4 \times 3 \times 2 \times 1) + (5 \times 4 \times 3 \times 2 \times 1) = 144$

5. $12! \div 2! \times 3!$

Answer: $(12 \times 11 \times 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1) \div [(2 \times 1) \times (3 \times 2 \times 1)]$

“Don’t just copy, Understand the principles!”