



# Combinations - $nPr$ and Factorial to $nCr$ Value

1

A combination equals its permutation divided by  $r$  factorial:  $nCr = nPr \div r!$ . Using the permutation and factorial below, what is the value of the matching combination?

$${}_3P_2 = 6 \quad \text{and} \quad 2! = 2$$

A	B
${}_3C_2 = 6$	${}_3C_2 = 3$

2

A combination equals its permutation divided by  $r$  factorial:  $nCr = nPr \div r!$ . Using the permutation and factorial below, what is the value of the matching combination?

$${}_4P_2 = 12 \quad \text{and} \quad 2! = 2$$

A	B
${}_4C_2 = 14$	${}_4C_2 = 12$

3

A combination equals its permutation divided by  $r$  factorial:  $nCr = nPr \div r!$ . Using the permutation and factorial below, what is the value of the matching combination?

$${}_4P_3 = 24 \quad \text{and} \quad 3! = 6$$

A	B
${}_4C_3 = 4$	${}_4C_3 = 18$

4

A combination equals its permutation divided by  $r$  factorial:  $nCr = nPr \div r!$ . Using the permutation and factorial below, what is the value of the matching combination?

$${}_5P_2 = 20 \quad \text{and} \quad 2! = 2$$

A	B
${}_5C_2 = 18$	${}_5C_2 = 20$

5

A combination equals its permutation divided by  $r$  factorial:  $nCr = nPr \div r!$ . Using the permutation and factorial below, what is the value of the matching combination?

$${}_5P_4 = 120 \quad \text{and} \quad 4! = 24$$

A	B
${}_5C_4 = 120$	${}_5C_4 = 96$

6

A combination equals its permutation divided by  $r$  factorial:  $nCr = nPr \div r!$ . Using the permutation and factorial below, what is the value of the matching combination?

$${}_5P_3 = 60 \quad \text{and} \quad 3! = 6$$

A	B
${}_5C_3 = 10$	${}_5C_3 = 66$