

Permutations

A permutation is an arrangement in which order matters.

$${}_n\mathbf{P}_r = \frac{n!}{(n-r)!}$$

Example: Find ${}_5\mathbf{P}_2$

$${}_5\mathbf{P}_2 = \frac{5!}{(5-2)!} = \frac{5!}{3!} = 5 \cdot 4 = 20$$

Find the following

1. ${}_{10}\mathbf{P}_2$

2. ${}_5\mathbf{P}_3$

3. ${}_6\mathbf{P}_3$

4. ${}_7\mathbf{P}_2$

5. ${}_{10}\mathbf{P}_6$

6. ${}_5\mathbf{P}_4$

7. ${}_5\mathbf{P}_5$

8. ${}_3\mathbf{P}_2$

9. ${}_7\mathbf{P}_3$

10. ${}_{10}\mathbf{P}_2$

11. ${}_4\mathbf{P}_3$

12. ${}_3\mathbf{P}_3$