

Exercise 6

Name _____

Mailbox _____

Solve

1. $8! - 4! =$

2. $\frac{8!}{4!} =$

3. $\binom{8}{4} =$

4. How many ways can you choose 6 objects from among 10?

5. How many ways can you choose 3 objects from among 3?

6. How many ways can you choose 1 object from among 5?

7. How many ways can you choose $n - 1$ objects from among n ?

8. $\sum_{i=1}^5 \frac{X_i}{n}$, where X_i are the first 10 positive integers (be careful!)

9. Calculate $\sum_{j=1}^6 2j \cdot \ln j$

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10. Solve for x and check your solution: (Hint: you may want to use the quadratic equation, which is $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$)

$$\sum_{i=0}^2 ix^i = 5$$

11. Calculate $\sum_{k=0}^3 \binom{3}{k} (0.4)^k (0.6)^{3-k}$

12. Simplify the following expression:

$$\sum_{i=0}^2 (x + iy)^i$$