

Permutation or Combination?

How many 3 digit numbers can be formed using the numbers 2, 5, 8, 3, and 4 if the numbers cannot be repeated?

How many ways can a committee of 5 men and 3 women be formed from a group of 8 men and 10 women?

8 groups are competing in a talent show, in how many orders can they perform?

Pascal's Triangle

Row 0				1					
Row 1			1		1				
Row 2			1		2		1		
Row 3		1		3		3		1	
Row 4	1		4		6		4		1

Binomial Expansions

Expand:

$$(a + b)^2$$

Binomial Expansions

Expand:

$$(a + b)^3$$

Binomial Expansions

Expand:

$$(a + b)^4$$

Binomial Expansions

Expand:

$$(a + b)^4$$

Row 3	1	3	3	1	
Row 4	1	4	6	4	1

$$1a^4 + 4a^3b + 6a^2b^2 + 4ab^3 + 1b^4$$

Binomial Expansions

Expand:

$$(a + b)^5$$

Binomial Expansions

Expand:

$$(a - b)^2$$

Binomial Expansions

Expand:

$$(a - b)^3$$

Binomial Expansions

Expand:

$$(a - b)^4$$

Binomial Expansions

Expand:

$$(a - b)^5$$

Expand:

$$(2y + 3x)^3$$

Expand

$$(3m + 2n)^3$$

Expand

$$(4y - 3x)^3$$