11-19-13
3rd Trig

$$\frac{6^2 \cdot 10^{-3}}{4^0 + 2^3 - (-4^2 + 5 \cdot 2)}$$

$$\frac{36 \cdot 10^{-3}}{1 + 8 - (-16 + 10)}$$

$$\frac{.036}{9 + 6} \quad \frac{036}{15} = .0024$$

I have Ann, Bob, Chad, and Dave in class. I am going to pick 2 of them to go play basketball. How many different sets of two can I form?

AB BC CD
AC BD
AD

6 possibilities since order doesn't matter

Combination problem

4 nCr 2

From you 24, I am going to pick 3 of you whom I am going to give $10. How many sets of 3 could I pick?

24 nCr 3 = 2,024

12,144 / 6

At Sal's they offer 16 toppings for my pizza. How many different 4 topping pizzas can they make?

16 nCr 4 = 1820

what if we just did 2 toppings?

16 nCr 2 = 120

From the word "Double" how many 3 letter words can you make?

ORDER MATTERS

$$\frac{6}{1^{st}} \cdot \frac{5}{2^{nd}} \cdot \frac{4}{3^{rd}} = 120$$

On a trip, I must take 3 shirts from the 40 shirts I have. How many different sets of 3 can I make?

$40 \text{ nCr } 3 = 9,880$

How many 5 card hands can be dealt from a deck of cards?

Order doesn't matter

$52 \text{ nCr } 5 = 2,598,960$

11-19-13
4th Trig

$$\frac{6^2 \cdot 10^{-3}}{4^0 + 2^3 - (-4^2 + 5 \cdot 2)} = .0024$$

$$\frac{36 \cdot 10^{-3}}{1 + 8 - (-16 + 10)}$$

$$\frac{.036}{9 + 6} = \frac{.036}{15} = .0024$$

Combinations

From my 4 students of Ann, Betsy, Carla, and Diana, I will pick 2 to model some new winter jackets at the fashion show. List out all the different couples (2) I could have.

AB ~~BA~~ ~~CA~~ ~~DA~~
AC BC ~~CB~~ ~~DB~~
AD BD CD ~~DC~~

6 possibilities

4 items choosing 2

4 nCr 2 = 6

I have 15 of you in here and must pick 3 to go help unload the Christmas truck. How many sets of 3 are possible?

15 nCr 3 = 455

From the word "jumping" how many 3 letter words can you make?

ORDER MATTERS!

$$\underset{1^{st}L}{7} \cdot \underset{2^{nd}L}{6} \cdot \underset{3^{rd}L}{5} = 210$$

At Sal's they have 18 different toppings to put in my calazone. How many different 4 topping calazones can they make?

18 nCr 4 = 3060

What if you only get 2 toppings?

18 nCr 2 = 153

Of my 52 shirts, I must take 4 to the cleaners. How many sets of 4 are possible

52 nCr 4 = 270,725

How many 5 card hands can be dealt?

52 nCr 5 = 2,598,960