

Warmup

Notice in multi-part questions the first one is usually easy!!

Define Permutation! A permutation is: _____
Write it out twenty times at home, say it out loud 20 times

If there are 8 horses in a race;

- how many ways can the 1st, 2nd, and 3 place ['Win, Place, Show'] finishes happen. (assuming of course just random, no particular horse is any better than any other)
- Determine the probability that Pickles Galore comes in first ('WIN')
- Determine the probability that Benny's Beauty, Snow Caboose, and Pickles Galore win in that order 1st, 2nd, and third place.

A Kindergarten Teacher has 14 kids

- How many ways can teacher line up all 14 kids to go to the water fountain?
- Teacher is only going to take 5 kids at a time, how many ways (how many different arrangements of kids) can teacher select of just 5 kids out of 14 to line up at the door.

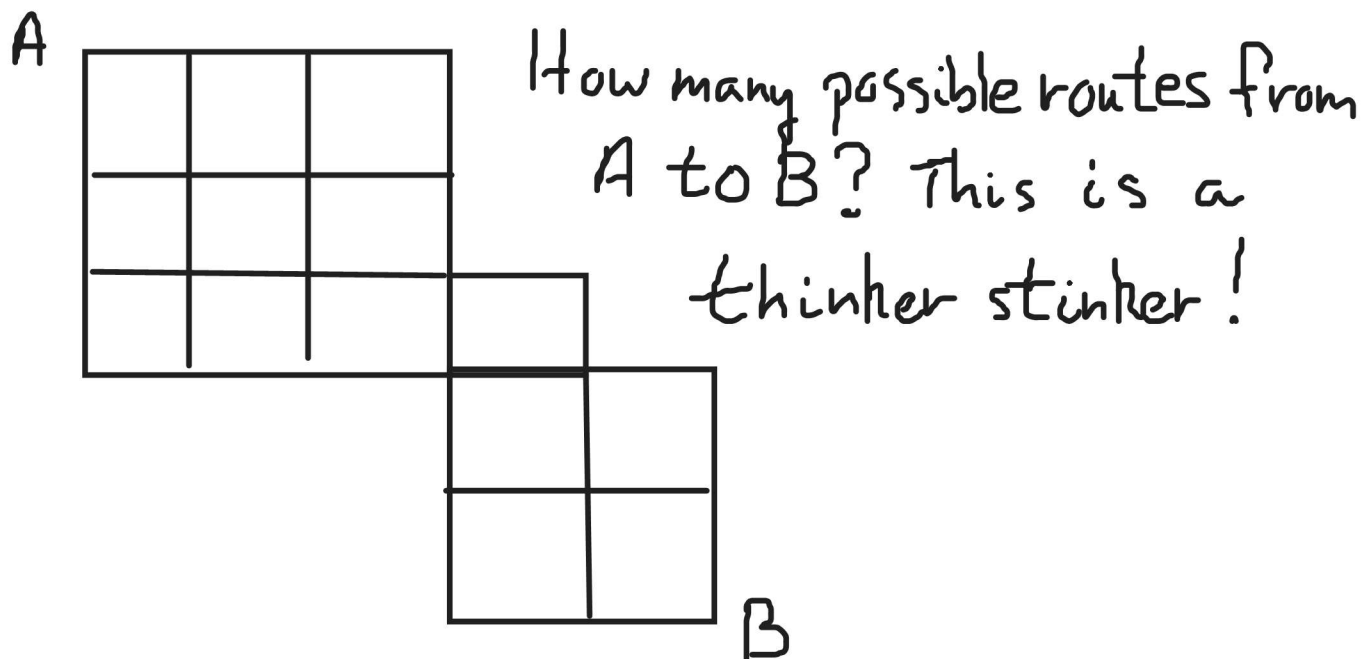
40,320 ; $1/8$; 0.297% ; $\sim 8.72 \times 10^{10}$; 240,240

Sienna has 5 bingo dabbers. They are all the same brand (shape). She has one blue, one green, one yellow, one pink, and one red.

a. How many ways can she [randomly] line them up in front of her.

b. Her pink bingo dabber runs out!! She runs and buys another blue of the same brand. How many ways can she line up her 5 bingo dabbers now?

[Today's Lesson]



120; 60; 150(?)