

Counting Puzzles

Advanced

Codes, teams, and tournaments.

Name: _____

Date: _____

Think: Order matters → multiply the shrinking choices. Order doesn't matter → divide out the repeats.

1. Solve each one. Reason it out!

1) In how many different orders can 4 runners finish a race (no ties)? _____

3) A lock code has 2 different digits chosen from 7 digit cards (order matters, no repeats). How many codes are possible? _____

5) In how many different orders can 4 songs play in a playlist? _____

7) A team of 2 is chosen from 9 students (the order does not matter). How many different teams are possible?

9) A team of 2 is chosen from 7 scouts (the order does not matter). How many different teams are possible?

2) 8 players are in a checkers club. Every player plays every other player exactly once. How many games is that? _____

4) In how many different orders can 4 books stand on a shelf? _____

6) 9 players are in a tennis group. Every player plays every other player exactly once. How many games is that? _____

8) A team of 2 is chosen from 8 students (the order does not matter). How many different teams are possible?

10) In how many different orders can 4 kids line up at a door? _____