

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

3) 7 players are in a ping-pong club. Every player plays every other player exactly once. How many games is that? _____

5) A team of 2 is chosen from 10 scouts (the order does not matter). How many different teams are possible? _____

7) A team of 2 is chosen from 12 students (the order does not matter). How many different teams are possible? _____

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

2) A lock code has 2 different digits chosen from 6 digit cards (order matters, no repeats). How many codes are possible? _____

4) A team of 2 is chosen from 10 chess players (the order does not matter). How many different teams are possible? _____

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

8) A lock code has 2 different digits chosen from 8 digit cards (order matters, no repeats). How many codes are possible? _____

10) A lock code has 2 different digits chosen from 5 digit cards (order matters, no repeats). How many codes are possible? _____