

## Chapter 10 Review Fundamental Counting Principal and Permutation

Lesson 146 | Algebra II | Counting, permutations and combinations

<https://www.youtube.com/watch?v=k6XtMAzP4Z8>

Original practice aligned to the saved video title.

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Show your reasoning.

**01** From 10 distinct students choose a team of 3 students. How many teams? How many ordered assignments to the same number of distinct roles?

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**02** From 12 distinct students choose a team of 2 students. How many teams? How many ordered assignments to the same number of distinct roles?

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**03** From 9 distinct students choose a team of 3 students. How many teams? How many ordered assignments to the same number of distinct roles?

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Name: \_\_\_\_\_ Date: \_\_\_\_\_ Show your reasoning.

04

From 16 distinct students choose a team of 7 students. How many teams? How many ordered assignments to the same number of distinct roles?

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05

From 14 distinct students choose a team of 2 students. How many teams? How many ordered assignments to the same number of distinct roles?

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06

From 17 distinct students choose a team of 7 students. How many teams? How many ordered assignments to the same number of distinct roles?

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- 01** From 10 distinct students choose a team of 3 students. How many teams? How many ordered assignments to the same number of distinct roles?

For  $m=3$ , teams  $C(10,m)=120$ . Ordered assignments  $P(10,m)=720$ ; order matters only for roles.

- 02** From 12 distinct students choose a team of 2 students. How many teams? How many ordered assignments to the same number of distinct roles?

For  $m=2$ , teams  $C(12,m)=66$ . Ordered assignments  $P(12,m)=132$ ; order matters only for roles.

- 03** From 9 distinct students choose a team of 3 students. How many teams? How many ordered assignments to the same number of distinct roles?

For  $m=3$ , teams  $C(9,m)=84$ . Ordered assignments  $P(9,m)=504$ ; order matters only for roles.

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04

From 16 distinct students choose a team of 7 students. How many teams? How many ordered assignments to the same number of distinct roles?

For  $m=7$ , teams  $C(16,m)=11440$ . Ordered assignments  $P(16,m)=57657600$ ; order matters only for roles.

05

From 14 distinct students choose a team of 2 students. How many teams? How many ordered assignments to the same number of distinct roles?

For  $m=2$ , teams  $C(14,m)=91$ . Ordered assignments  $P(14,m)=182$ ; order matters only for roles.

06

From 17 distinct students choose a team of 7 students. How many teams? How many ordered assignments to the same number of distinct roles?

For  $m=7$ , teams  $C(17,m)=19448$ . Ordered assignments  $P(17,m)=98017920$ ; order matters only for roles.