Name _____ Score _____ Teacher _____ Date _____

Counting Applications

Identify whether order matters and whether repetition is allowed. Name the counting method, show the factors or formula, and give the exact count.

1. From 6 different books, how many sets of 3 books can be selected? Identify the counting method.

Selection policy: No person or item may be selected more than once.

2. A trip has 3 first-leg routes, 6 second-leg routes, and 4 final-leg routes. How many complete routes are possible? Identify the counting method.

Selection policy: Each stage is chosen independently; reusing a category choice does not remove later choices.

Use exact counts and reduce every probability fraction.

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Counting Applications

Identify whether order matters and whether repetition is allowed. Name the counting method, show the factors or formula, and give the exact count.

3. A club with 12 members fills 3 distinct officer roles. How many assignments are possible? Identify the counting method.

Selection policy: No person or item may be selected more than once.

4. A lunch menu has 5 entrees, 4 sides, and 2 drinks. How many meals choose one of each? Identify the counting method.

Selection policy: Each stage is chosen independently; reusing a category choice does not remove later choices.

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Counting Applications

Identify whether order matters and whether repetition is allowed. Name the counting method, show the factors or formula, and give the exact count.

5. From 6 distinct toppings, how many selections of 5 different toppings are possible? Identify the counting method.

Selection policy: No person or item may be selected more than once.

6. From 10 speakers, how many ordered schedules of 5 different speakers are possible? Identify the counting method.

Selection policy: No person or item may be selected more than once.

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Counting Applications

Identify whether order matters and whether repetition is allowed. Name the counting method, show the factors or formula, and give the exact count.

7. A three-position code uses 5, 4, and 3 allowed symbols by position. Symbols may repeat. How many codes are possible? Identify the counting method.

Selection policy: Repetition is allowed, and each position has its stated set of choices.

8. From 12 volunteers, how many different committees of 2 people are possible? Identify the counting method.

Selection policy: No person or item may be selected more than once.