

Chapter 10 Review Compounded Events, Independent and Dependent, Conditioning Probability

Lesson 145 | Algebra II | Conditional and dependent probability

<https://www.youtube.com/watch?v=VdS7j-IWAlk>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

A bag has 3 red and 9 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

02

A bag has 9 red and 13 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

03

A bag has 4 red and 6 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

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04

A bag has 12 red and 9 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

05

A bag has 2 red and 14 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

06

A bag has 8 red and 2 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

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01

A bag has 3 red and 9 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

$P(RR) = (3/12) \cdot (2/11) = 1/22$. Given first blue, 3 red among 11 remain: $3/11$.

02

A bag has 9 red and 13 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

$P(RR) = (9/22) \cdot (8/21) = 12/77$. Given first blue, 9 red among 21 remain: $3/7$.

03

A bag has 4 red and 6 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

$P(RR) = (4/10) \cdot (3/9) = 2/15$. Given first blue, 4 red among 9 remain: $4/9$.

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04

A bag has 12 red and 9 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

$P(RR) = (12/21) \cdot (11/20) = 11/35$. Given first blue, 12 red among 20 remain: $3/5$.

05

A bag has 2 red and 14 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

$P(RR) = (2/16) \cdot (1/15) = 1/120$. Given first blue, 2 red among 15 remain: $2/15$.

06

A bag has 8 red and 2 blue counters. Draw twice without replacement. Find $P(\text{both red})$ and $P(\text{second red} \mid \text{first blue})$.

$P(RR) = (8/10) \cdot (7/9) = 28/45$. Given first blue, 8 red among 9 remain: $8/9$.