

Conditional Probability

For each question, identify the conditioning population or the joint event. Show the favorable count and sample count, then reduce the exact fraction.

1. Find $P(\text{performed the piece} \mid \text{practiced this week})$. The condition after the bar is the population to use.

	performed the piece	did not perform the piece	Total
practiced this week	11	6	17
did not practice this week	5	8	13
Total	16	14	30

2. Find $P(\text{did not work in the garden and did not plant seeds})$. Use the full table as the sample population.

	planted seeds	did not plant seeds	Total
worked in the garden	10	7	17
did not work in the garden	8	7	15
Total	18	14	32

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3. A bag has 9 black and 6 white tokens. Two are drawn at random without replacement. Find $P(\text{first is black and second is black})$.

4. A bag has 3 black and 3 white tokens. Two are drawn at random without replacement. Given that the first is black, find $P(\text{second is white} \mid \text{first is black})$.

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5. A bag has 3 orange and 6 purple tokens. Two are drawn at random without replacement. Find $P(\text{first is purple and second is orange})$.

6. Find $P(\text{missed the event} \mid \text{joined a club})$. The condition after the bar is the population to use.

	attended the event	missed the event	Total
joined a club	13	4	17
did not join a club	3	10	13
Total	16	14	30

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7. Find P(uses a study plan and completed review). Use the full table as the sample population.

	completed review	did not complete review	Total
uses a study plan	11	2	13
does not use a study plan	9	8	17
Total	20	10	30

8. A bag has 7 red and 5 blue tokens. Two are drawn at random without replacement. Given that the first is red, find P(second is blue | first is red).