

Probability of Compound Events

What is the probability of flipping a coin and getting heads, and then tails? P(heads, then tails):

Example of how to show your steps (refer to your notes for examples):

1. Show your steps: Write the formula: $P(H) \times P(T)$
2. Plug in the numbers
3. Do the math

You roll a fair number cube. Find each probability:

1. P(3, then 5)
2. P(2, then 2)
3. P(4, then odd)

A box contains fifteen billiards balls, numbered 1 through 15. Anna draws a ball, records the number, and then returns it to the box. Then Vicki draws a ball. Find each probability.

4. P(9, then 3)
5. P(8, then odd)
6. P(even, then odd)

Each letter of L I T T R E L L is written on a card. The cards are placed in a basket. Find each probability if Elsa selects a card, leaves it out, and then selects another card.

7. Is this an independent or dependent event?

Explain: _____

8. What is the probability of selecting a T and then an E? P(T, then E)

9. What is the probability of selecting a T, and then another T? P(T, then T)

10. P(E, then I)?

Homework:

11. Lita has a coin with heads on one side and tails on the other side. She is going to flip it in the air three times. What is the probability of the coin landing tails up on the first flip and heads up twice on the last two flips? $P(\text{Tails, then heads, then heads})$

Are the events above independent or dependent events?

12. Bill's golf bag contains 9 white golf balls, 6 yellow golf balls, 1 orange golf ball, and 1 pink golf ball. Without looking, Tim is going to take 1 golf ball out of his bag to tee off with and a different golf ball out to putt with. What is the probability of Tim teeing off with a white ball and putting with an orange ball? $P(\text{white, then orange})$

Are the events above independent or dependent events? _____

13. A drawer contains 10 blue pens, and 10 red pens. Without looking, Mrs. Stanton is going to take one pen from a drawer, use it, and then put it back in the drawer. Then he is going to take another pen from the drawer to use. What is the probability of Mrs. Stanton taking a red pen first and then taking a blue pen? $P(\text{red, then blue})$?

Are the events above independent or dependent events? _____

14. There are 5 slices of pepperoni pizza, 1 slice of sausage pizza, and 3 slices of cheese pizza left. Without looking, Mr. Douglas took a slice of pizza, ate it, and then took another slice. What is the probability of Mr. Douglas eating two slices of cheese pizza?

Are the events above independent or dependent events? _____

Math 7
7.1 Practice

ANSWER KEY:

1. $1/36$
2. $1/36$
3. $1/12$
4. $1/225$
5. $8/225$
6. $56/225$
7. Dependent. There are fewer cards in the basket for the 2nd event
8. $1/28$
9. $1/28$
10. $1/56$
11. $1/8$
12. Independent
13. $9/272$
14. Dependent
15. $1/4$
16. Independent
17. $1/12$
18. Dependent