Probability of Compound Events   Name _____

Example of how to show your steps:
What is the probability of flipping a coin and getting heads, and then tails? P(heads, then tails):
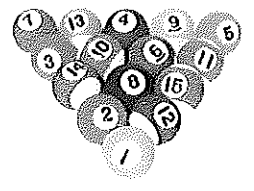Show your steps: Write the formula: P(H) • P(T)

Plug in the numbers: $\frac{1}{2}$ • $\frac{1}{2}$

Do the math: $\frac{1 \times 1}{2 \times 2} = \boxed{\frac{1}{4}}$

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. Betty draws a ball, records the number, and then returns it to the box. Then Jill 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 Martha selects a card, leaves it out, and then selects another card.

7. Is this an independent or dependent event?   8. What is the probability of selecting
Explain: _____   a T and then an E? P(T, then E)
_____
_____

9. What is the probability of selecting a T, and   10. P(E, then I)?
then another T? P(T, then T)

11. Claire 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(Tails, then heads, then heads)

12. Are the events above independent or dependent events? How do you know?

_____

_____

13. Tim'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(white, then orange)

14. Are the events above independent or dependent events? _____

15. A drawer contains 10 blue pens, and 10 red pens. Without looking, Mr. Wells 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 Mr. Wells taking a red pen first and then taking a blue pen? P(red, then blue)?

16. Are the events above independent or dependent events? _____

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

18. Are the events above independent or dependent events? _____

There are 12 pieces of candy in a bowl. 6 are mints, 4 are Butterscotch, and 2 are Cinnamon.

19. What is the probability of Mr. Binder pulling Butterscotch from the bowl, putting it back, and then choosing mint? P(Butterscotch, then mint)

20. What is the probability of Mr. Sommer pulling out mint, putting it back, and then choosing mint again? P(mint, then mint)

21. What is the probability of Ms. Hodovance choosing Butterscotch, keeping it, and then choosing cinnamon? P(Butterscotch, then cinnamon)

22. What is the probability of Ms. Kaiser choosing a cinnamon candy, keeping it, and then choosing cinnamon again? P(Cinnamon, then cinnamon)

23. What is the probability of Mr. Brimhall choosing a mint, replacing it, choosing a cinnamon, replacing it, and then choosing Butterscotch? P(Mint, cinnamon, butterscotch)

24. Mr. Habeck reached in a grabbed three candies. What is the probability that the first was mint, the second was cinnamon, and the third was another mint?

25. What is the probability that Ms. Grotbeck flips a coin and gets tails, and then chooses a candy and gets mint, and then rolls a number cube and gets a 3?

26. What is the chance of Ms. Shapiro choosing a mint candy, replacing it, choosing a cinnamon, keeping it, and then choosing mint?