

## 8 – HW#3 Probability of Compound Events

Name: \_\_\_\_\_ Per: \_\_\_\_\_

**You spin a spinner that has 8 equal-sized sections numbered 1 to 8. Find each probability.**

1.  $P(2 \text{ or } 4)$
2.  $P(\text{multiple of 2 or odd})$
3.  $P(\text{odd and greater than 3})$
4.  $P(\text{multiple of 3 and multiple of 2})$
5. **Open-Ended** What is an example of a compound event composed of two mutually exclusive events when you spin a spinner numbered 1 to 8?

**You roll a black number cube and a white number cube. Find each probability.**

6.  $P(\text{black 4 and white 4})$
7.  $P(\text{black even and white even})$
8.  $P(\text{black 3 or 4 and white 1 or 6})$
9.  $P(\text{black 1 or white odd})$
10.  $P(\text{sum 10})$
11.  $P(\text{sum 5})$
12. The probability that Hannah will be late for dinner is  $\frac{1}{2}$ . What is the probability that she will be late for dinner two nights in a row?
13. The computer repairman is given 9 computers to fix. He knows that among them are four bad video cards and three failed hard drives. What is the probability that the first computer he tries has both problems?
14. An animal cage is holding eight black cats and nine white cats. None of them want to be in there. The cage door is opened slightly and two cats escape. What is the probability that one of each color escapes?

**You choose a tile at random from a bag containing 4 tiles with R, 2 tiles with S, and 3 tiles with T. You replace the tile and then choose again. Find each probability.**

15.  $P(\text{both S})$
16.  $P(\text{both T})$
17.  $P(\text{R then T})$

You choose a marble at random from a bag containing 3 yellow marbles, 8 red marbles, and 4 blue marbles. You pick a second marble without replacing the first. Find each probability.

18.  $P(\text{red then blue})$

19.  $P(\text{both yellow})$

20.  $P(\text{yellow then blue})$

21.  $P(\text{both red})$

22. The committee to plan the homecoming dance has 4 juniors and 6 seniors. To decide who will plan the decorations, the advisor puts the names of the students in a hat and randomly picks one name. Then the advisor picks another name without replacing the first. What is the probability that both students picked are seniors?

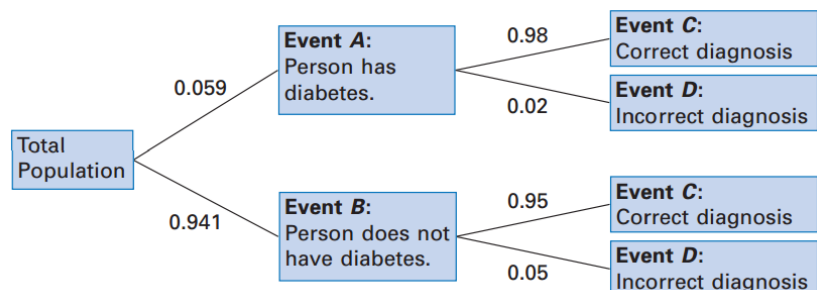
**Decide if each set of events is independent or dependent.**

23. A student spins a spinner and chooses a Scrabble tile.

24. A boy chooses a sock from a drawer of socks, puts it on and then chooses a second sock.

25. A student picks a raffle ticket from a box, replaces it and then chooses a second ticket.

26. The American Diabetes Association estimates that 5.9% of Americans have diabetes. Suppose that a medical lab has developed a diagnostic test for diabetes that is 98% accurate for people who have the disease and 95% accurate for people who do not have it. Use the tree diagram below to determine if the medical lab gives the test to a randomly selected person, what is the probability that the diagnostic is correct?



27. Draw a tree diagram that shows all the possible outcomes if you flip a coin 3 times. Are the events independent or dependent? Does it matter if you flip the same coin 3 times or 3 different coins?