

Aim: How do we find Compound Probability without sample spaces?

Date _____

Do Now: The spinner is spun and the die is rolled. Find each probability.

- a. $P(\text{red and } 2)$
- b. $P(\text{purple and composite})$
- c. $P(\text{orange or green, } \# > 3)$

Draw a tree diagram to represent the sample space

Critical Thinking: Do you always need to list the sample space?

Let's show how to find the probabilities of the do now questions without looking at the sample space.

- a. $P(\text{red and } 2)$
- b. $P(\text{purple and composite})$
- c. $P(\text{orange or green, } \# > 3)$

Rule:

1. Find the Probability of the Compound Events:



- a. What is the probability of getting heads and a 2?
- b. What is the probability of rolling a number greater than or equal to 4 and flipping tails?
- c. What is the probability of rolling a prime number and flipping heads?
- d. What is the probability of rolling a 2 or 5 and flipping heads or tails?

2. You spin the spinner once then flip the coin once. Find the probability of each event.



- a. Spinning a 3 and flipping a heads
- b. Spinning an odd number and flipping a heads
- c. Spinning a number less than or equal to 3 and flipping a tails
- d. Spinning an 8 and flipping a tails
- e. Not spinning a 4 and flipping a heads
- f. Spinning a number that is neither prime nor composite and flipping heads

3. You spin the spinner, flip a coin, and then spin the spinner again. Find the probability of each:

- a. Spinning 3, flipping heads, then spinning a 1
- b. Spinning an odd number, flipping heads, then spinning a 3
- c. Spinning an even number, flipping tails, then spinning an odd number
- d. Not spinning 1, flipping tails, then not spinning a prime number

