

# Probability

Math 122 – Introduction to Statistics  
and Probability

In a batch of 100 stereos 5 are defective. If five of the stereos are selected with replacement, what is the probability that none are defective?

In a batch of 100 stereos 5 are defective. If five of the stereos are selected with replacement, what is the probability that at least one is defective?

A bowl contains 7 red marbles and 3 blue marbles.

Two marbles are selected without replacement.

What is the probability that **both** are blue?

A bowl contains 7 red marbles and 3 blue marbles.

Two marbles are selected without replacement.

What is the probability that **at least one is red**?

A bowl contains 7 red marbles and 3 blue marbles.

Two marbles are selected without replacement.

Draw a tree depicting all outcomes.

A bowl contains 7 red marbles and 3 blue marbles.

Two marbles are selected **without** replacement.

What is the probability that the second marble is red?

A bowl contains 7 red marbles and 3 blue marbles.

Two marbles are selected **without** replacement.

What is the probability that **at least one** is blue?



# Redundancy

- A certain type of battery operated alarm clock works 90% of the time.
- Bob buys two of these clocks.
- What is the probability on a given morning that both clocks fail?
- What is the probability that at least one works?

