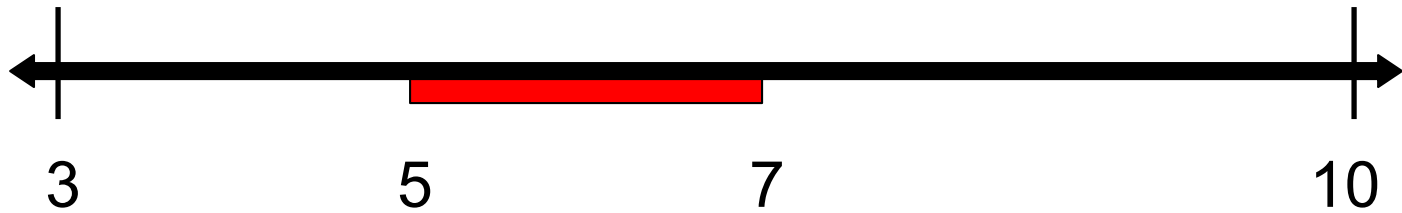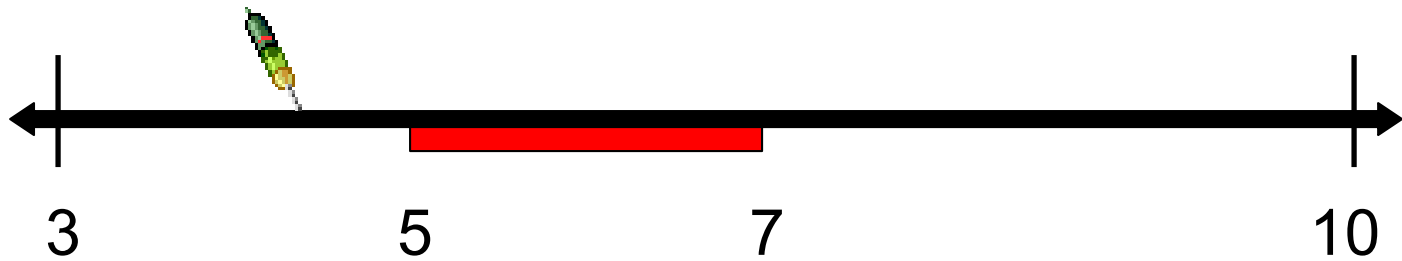# Monte Carlo Estimation

Monte Carlo Methods

- Class of computational methods that use *random sampling* to estimate results
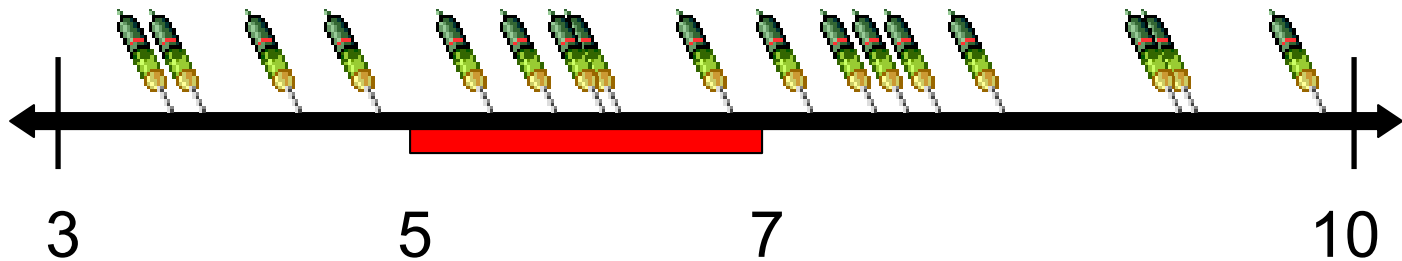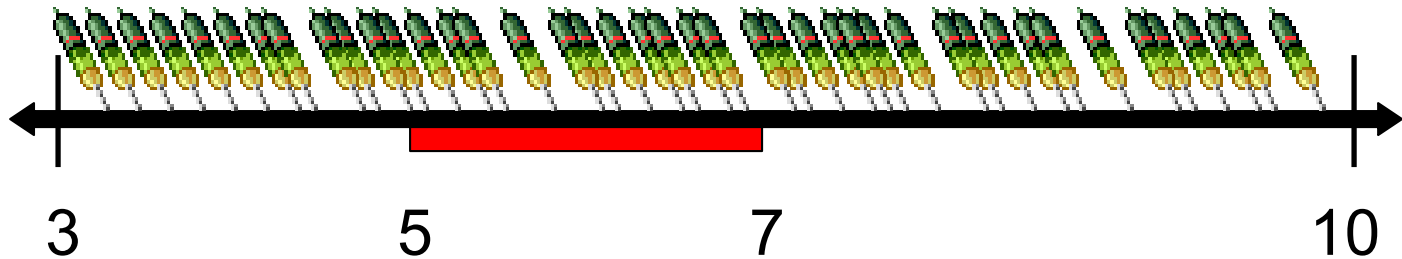 - Named after the famous Monte Carlo Casino

Throwing Darts

Throwing Darts

3   5   7   10
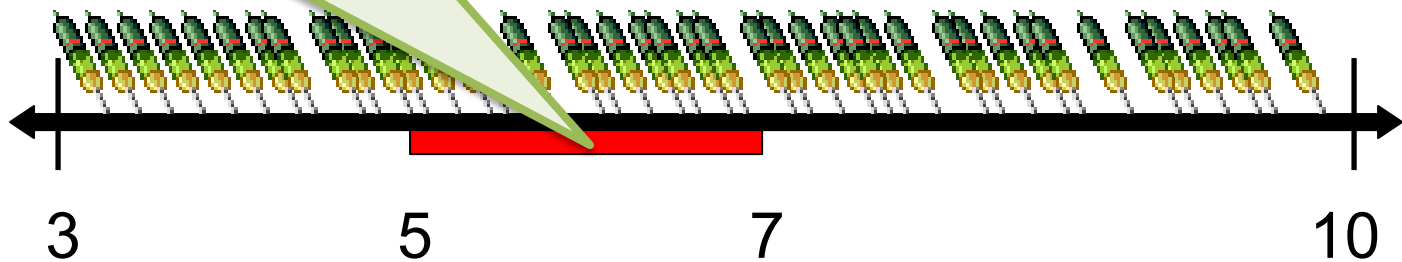
Throwing Darts

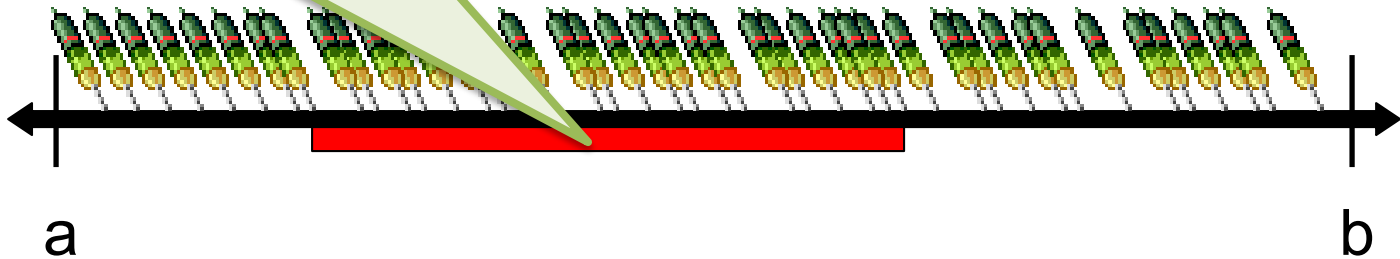# Throwing Darts

3   5   7   10

Throwing Darts

How many of 1000 darts do you expect to land in this red interval?
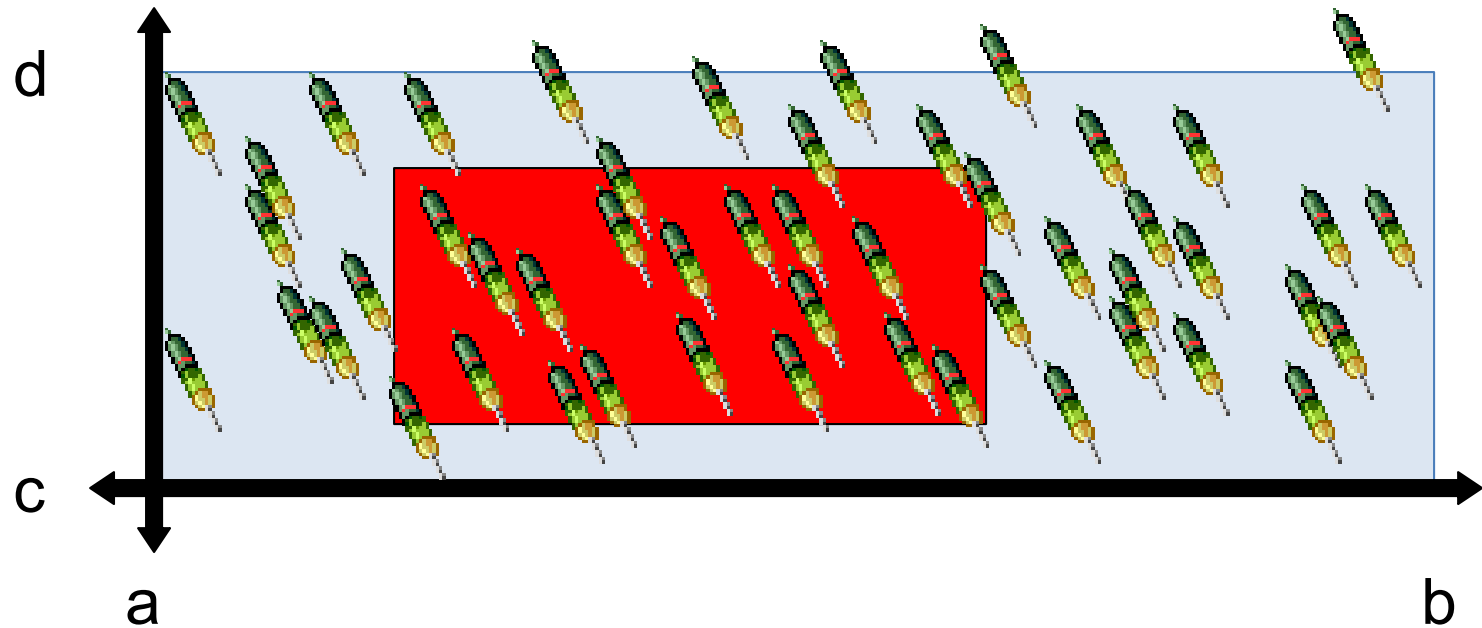
Throwing Darts

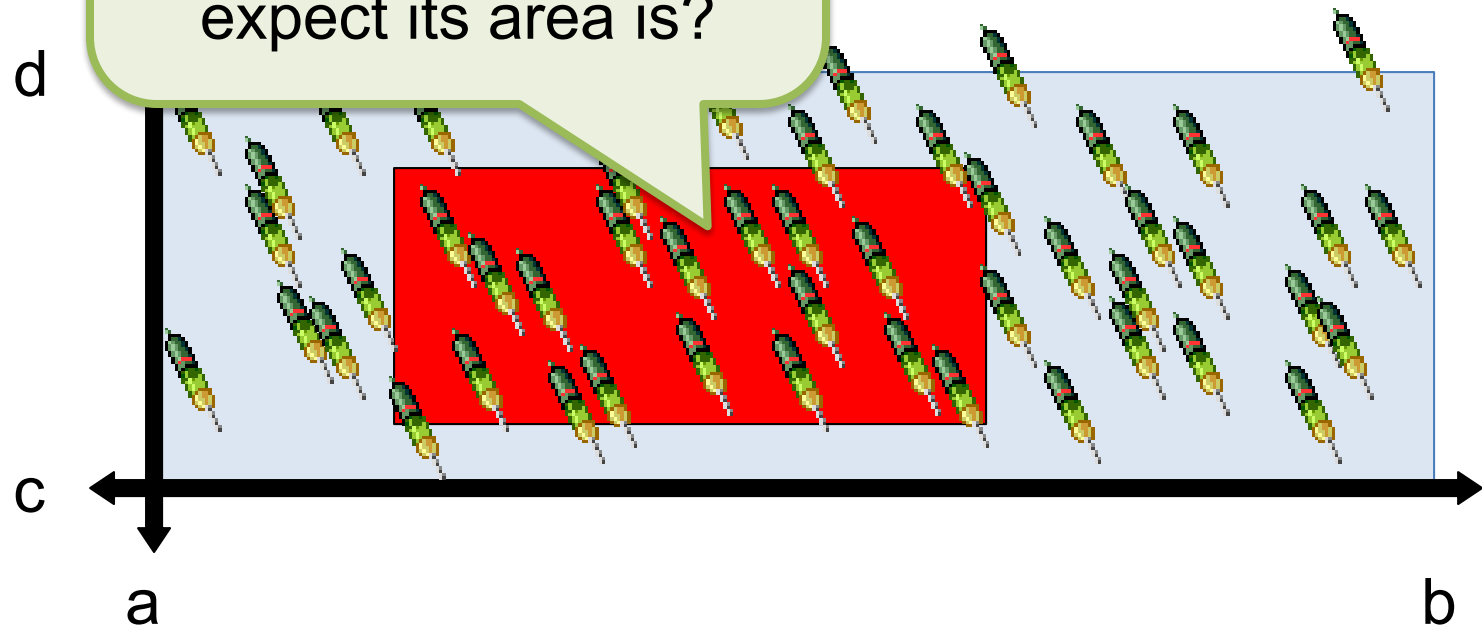If 459 of 1000 darts land in this red interval, how long do you expect it is?

a

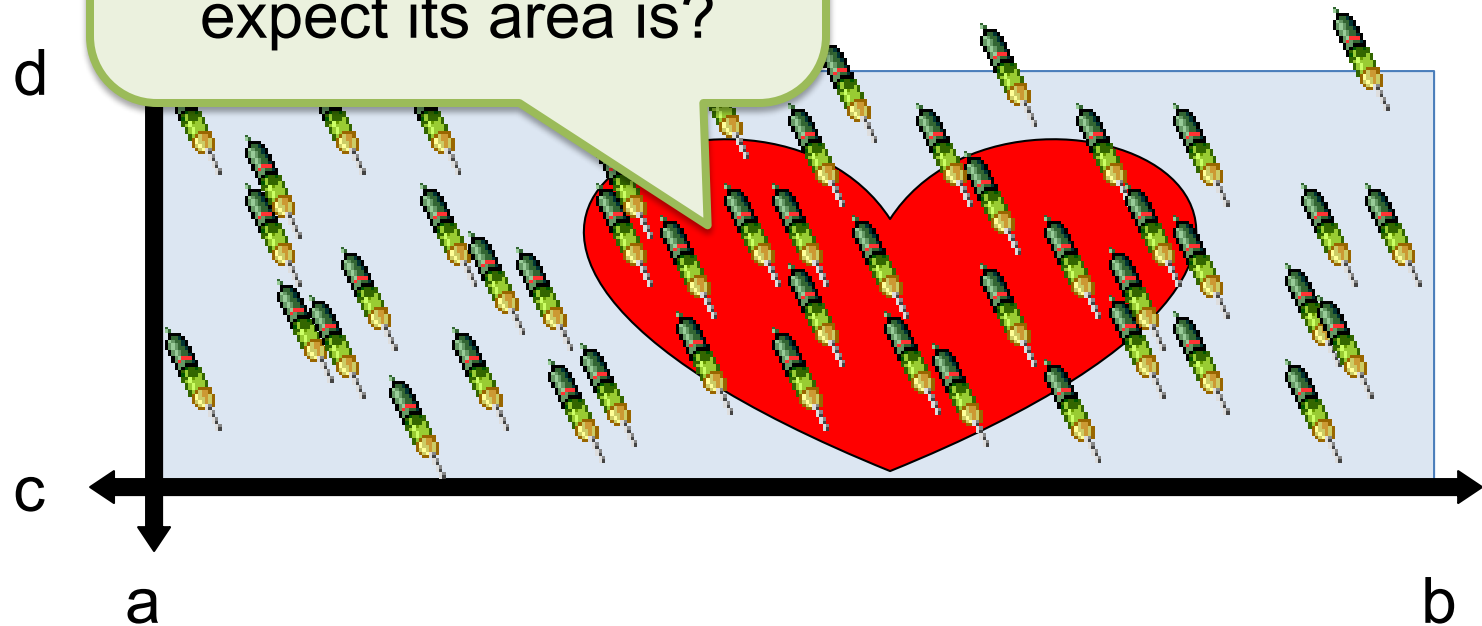b

Throwing Darts: 2D Version

d

c

a

b

Throwing Darts: 2D Version

If 367 of 1000 darts land in this red rectangle, what do you expect its area is?

Throwing Darts: 2D Version

If 367 of 1000 darts land in this red heart, what do you expect its area is?

d

c

a

b

Throw 1M Darts…

2

0

0   2