

1. What is the area of the circle by Monte Carlo estimate, using the numbers given below? There are 1,089 patches as the turtle world is 33 wide by 33 tall. Give the estimate in square patches, as those are the units in turtle world. SHOW YOUR WORK AND THE PROCESS OF ARRIVING AT THE ANSWER!

2. What is the radius of the circle, by using the Monte Carlo estimate you got for the area. Please show all your work.

h 10

w 10

Make Oval w width h height

MonteCarlo

howManyTurtles 100

On SeePatches
Off

count cows
30

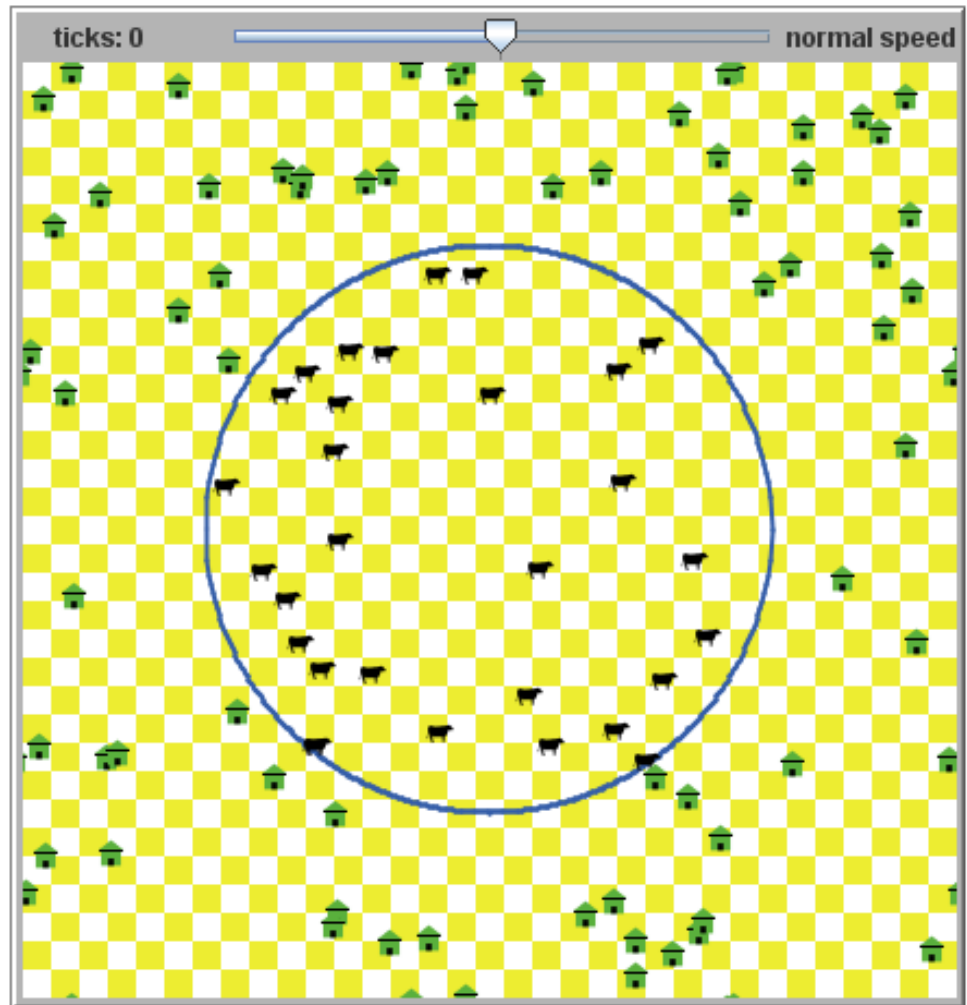
count houses
70

count turtles
100

count patches
1089

1st step:
Make w by h
Ellipse

2nd step:
MonteCarlo
button
to get data for
an area estimate
...



Recall the area of a circle = π * radius squared.

$$\text{AREA} = 3.14159 * \text{radius}^2$$

3. Estimate the area of the turtle world in patches given that the radius of the circle is 5 units. This is exactly the same as the 8 ½ inch by 11 inch sheet of paper (playing the role of the circle) and the larger colored sheet of construction paper (playing the role of the turtle world). The turtles (cows or houses) play the role of the Shark or Dinosaur or Peanuts or Star Wars or Tropical Birds Hy Vee Fruit Snacks. SHOW YOUR WORK AND PROCESS OF ARRIVING AT THE RESULT!

h

w

Make Oval w width h height

MonteCarlo

howManyTurtles

On SeePatches
 Off

count cows

1st step:
Make w by h
Ellipse

count houses

2nd step:
MonteCarlo
button
to get data for
an area estimate
of the oval.

count turtles

count patches

