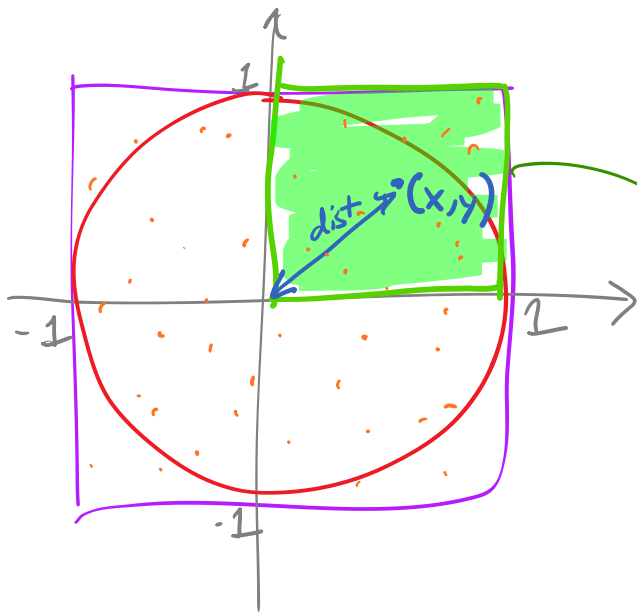


GROUP DISCUSSION:

How does the "dart board" algorithm approximate  $\pi$ ?



$$\text{dist} = \sqrt{x^2 + y^2} \leq 1$$

$$x^2 + y^2 \leq 1$$

area of  $\square$  is 1  
area of  $\bigcirc$  is  $\frac{\pi}{4}$

$$\text{So: } \frac{\text{acc}}{m} \approx \frac{\pi}{4}$$

$$\text{return value} \rightarrow 4 \cdot \frac{\text{acc}}{m} \approx \pi$$