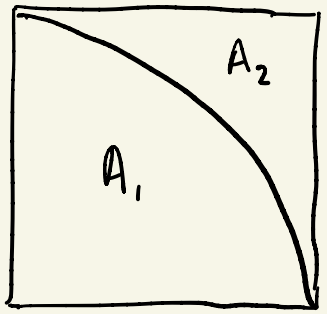


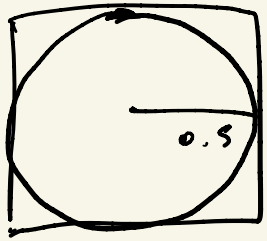

$$A_1 = \frac{\pi r^2}{4} = \frac{\pi}{4}$$

$$A_2 = 1 \cdot 1 - A_1 = 1 - \frac{\pi}{4}$$

$$P(\text{hitting } A_1) = \frac{\#\text{ of events that satisfy hitting } A_1}{\#\text{ of total possible events}}$$

$$= \frac{\text{Area } A_1}{\text{Area } A_1 + \text{Area } A_2} = \frac{\pi}{4}$$

```
hits = 0
x = uniform(0,1)
y = uniform(0,1)
if x^2 + y^2 < r^2:
    hits += 1
return (hits/throws)*4
```


0.5